

Service Service Service

LC4.41E AA

For manual LGE PDP panel see: 3122 785 15590

For manual FHP PDP panel see: 3122 785 14580

For manual SDI PDP panel see: 3122 785 14990



Service Manual

Contents	Page
1. Technical Specifications, Connections, and Chassis Overview	2
2. Safety Instructions, Warnings, and Notes	5
3. Directions for Use	6
4. Mechanical Instructions	7
5. Service Modes, Error Codes, and Fault Finding	11
6. Block Diagrams, Test Point Overviews, and Waveforms	
Wiring Diagram 42" LG	19
Wiring Diagram 42" & 50" SDI	20
Block Diagram Supply FHP	21
Block Diagram Video	22
Block Diagram Audio	23
Test Point Overview Small Signal Board	24
I2C Overview	25
Supply Voltage Overview	26
7. PDP FHP Supply: Filter Standby	(A2) 27
PDP FHP Supply: Protection	(A3) 28
PDP FHP Supply: Pre Conditioner	(A5) 29
PDP FHP Supply: LLC Supply	(A6) 30
PDP FHP Supply: AUX Supply	(A7) 31
SSB: Tuner and VIF	(B1) 38
SSB: Hercules	(B2) 39
SSB: Sync Interface	(B3) 40
SSB: Audio Delay Line (PDP Only)	(B4) 41
SSB: Audio Processing	(B5) 42
SSB: DC-DC Converter	(B6) 43
SSB: Diversity Tables B1-B6	44
SSB: Scaler	(B7) 45
SSB: Scaler	(B8) 46
SSB: Scaler Interface	(B9) 47
SSB: SDRAM	(B10) 48
SSB: Flash / Control	(B11) 49
SSB: HDMI	(B12) 50

Contents	Page
SSB: MUX-Sync Interface	(B13) 51
SSB: Digital I/O	(B14) 52
SSB: SCART Analog I/O	(B15A) 53
SSB: DMMI	(B15B) 54
SSB: Top Connectors	(B16) 55
SSB: Side Connectors	(B17) 56
SSB: ADC	(B18) 57
SSB: Columbus	(B19) 58
SSB: Pacific 3	(B20) 59
SSB: Diversity Tables B9-B20	60
Audio Panel: Amplifier	(C) 71
Side I/O Panel	(D) 74
Keyboard Control Board	(E) 76
Front IR / LED Panel	(J) 77
OTC Flash (For 1000pg TXT)	(T) 79
8. Alignments	83
9. Circuit Descriptions, Abbreviation List, and IC Data Sheets	89
Abbreviation List	90
IC Data Sheets	93
10. Spare Parts List	97
11. Revision List	107

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1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

- 1.1 Technical Specifications
- 1.2 Connection Overview
- 1.3 Chassis Overview

Notes:

- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

1.1.1 Vision

Display type	: Plasma
Screen size	: 42" (107 cm), 15:9
Resolution (HxV pixels)	:
- 42PF3321/10	: 852 x 480
- 42PF5321/10/12	: 852 x 480
- 42PF5411/10	: 852 x 480
- 42PF7321/10/12	: 1024 x 768
Contrast ratio (typical)	:
- 42PF3321/10	: 3000:1
- 42PF5321/10/12	: 7000:1
- 42PF5411/10	: 7000:1
- 42PF7321/10/12	: 7000:1
Light output (cd/m ²)	:
- 42PF3321/10	: 1000:1
- 42PF5321/10/12	: 1100:1
- 42PF5411/10	: 1100:1
- 42PF7321/10/12	: 1100:1
Viewing angle (HxV degrees)	: 160 x 160
Tuning system	: PLL
TV Colour systems	: PAL B/G, D/K, I : SECAM B/G, D/K, L/L'
Video playback	: NTSC M/N 3.58, 4.43 : PAL B/G : SECAM L/L'
Supported computer formats	: VGA (640x480) : MAC (640x480) : SVGA (800x600) : XGA (1024x768)
Supported video formats	: 640x480p - 2fH : 720x576p - 2fH : 1280x720p - 3fH : 1920x1080i - 2fH
Presets/channels	: 100 presets
Tuner bands	: VHF : UHF : S-band : Hyper-band

1.1.2 Sound

Sound systems	: NICAM B/G, D/K, I, L : AV Stereo
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Maximum power (W_{RMS}) : 2 x 15

1.1.3 Miscellaneous

Power supply:
Mains voltage (V_{AC}) : 220 - 240

Mains frequency (Hz) : 50 / 60

Ambient conditions:
- Temperature range (°C) : +5 to +40
- Maximum humidity : 90% R.H.

Power consumption:
Normal operation (W) : 220
Stand-by (W) : < 2

Dimensions (WxHxD cm):
- 42PF3321/10 : 123.6 x 67.9 x 10.3
- 42PF5321/10/12 : 123.6 x 67.9 x 10.3
- 42PF5411/10 : 123.6 x 67.9 x 10.3
- 42PF7321/10/12 : 124.9 x 68.8 x 11.1

Weight (kg):
- 42PF3321/10 : 39.2
- 42PF5321/10/12 : 39.2
- 42PF5411/10 : 39.2
- 42PF7321/10/12 : 42.0

1.2 Connection Overview

Note: The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

1.2.1 Side I/O connections

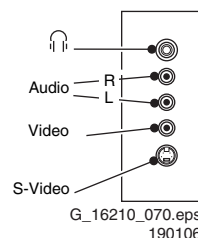


Figure 1-1 Side I/O connections

S-Video (Hosiden): Video Y/C - In

1	- Ground Y	Gnd	⏏
2	- Ground C	Gnd	⏏
3	- Video Y	1 V_{PP} / 75 ohm	⊕
4	- Video C	0.3 V_{PP} / 75 ohm	⊕

Cinch: Video CVBS - In, Audio - In

Ye	- Video CVBS	1 V_{PP} / 75 ohm	⊕
Wh	- Audio L	0.5 V_{RMS} / 10 kohm	⊕
Rd	- Audio R	0.5 V_{RMS} / 10 kohm	⊕

Mini Jack: Audio Head phone - Out

Bk	- Head phone	32 - 600 ohm / 10 mW	Ⓜ
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1.2.2 Rear Connections

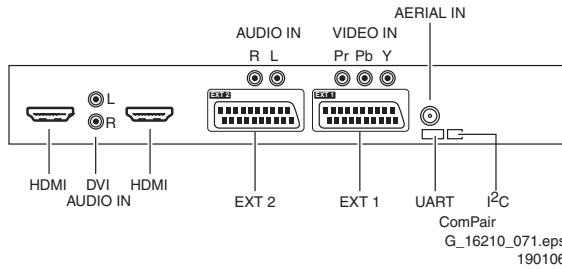


Figure 1-2 Rear I/O

Aerial - In

- IEC-type (EU) Coax, 75 ohm

Cinch: Audio - In

Wh - Audio L 0.5 V_{RMS} / 10 kohm
Rd - Audio R 0.5 V_{RMS} / 10 kohm

Cinch: Video YPbPr - In

Gn - Video Y 1 V_{PP} / 75 ohm
Bu - Video Pb 0.7 V_{PP} / 75 ohm
Rd - Video Pr 0.7 V_{PP} / 75 ohm

Cinch: DVI Audio - In

Rd - Audio - R 0.5 V_{RMS} / 10 kohm
Wh - Audio - L 0.5 V_{RMS} / 10 kohm

Service connector (ComPair)

1 - SDA-S I²C Data (0 - 5 V)
2 - SCL-S I²C Clock (0 - 5 V)
3 - Ground Gnd

Service connector (UART)

1 - UART_TX Transmit
2 - Ground Gnd
3 - UART_RX Receive

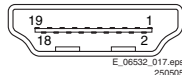
HDMI: Digital Video/Digital Audio - In

Figure 1-3 HDMI (type A) connector

1	- D2+	Data channel	⊕
2	- Shield	Gnd	⊥
3	- D2-	Data channel	⊕
4	- D1+	Data channel	⊕
5	- Shield	Gnd	⊥
6	- D1-	Data channel	⊕
7	- D0+	Data channel	⊕
8	- Shield	Gnd	⊥
9	- D0-	Data channel	⊕
10	- CLK+	Data channel	⊕
11	- Shield	Gnd	⊥
12	- CLK-	Data channel	⊕
13	- n.c.		
14	- n.c.		
15	- DDC_SCL	DDC clock	⊕
16	- DDC_SDA	DDC data	⊕
17	- Ground	Gnd	⊥
18	- +5V		⊕
19	- HPD	Hot Plug Detect	⊕
20	- Ground	Gnd	⊥

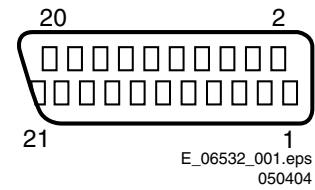
EXT1: Video RGB - In, CVBS - In/Out, Audio - In/Out

Figure 1-4 SCART connector

1	- Audio R	0.5 V _{RMS} / 1 kohm	⊕
2	- Audio R	0.5 V _{RMS} / 10 kohm	⊕
3	- Audio L	0.5 V _{RMS} / 1 kohm	⊕
4	- Ground Audio	Gnd	⊥
5	- Ground Blue	Gnd	⊥
6	- Audio L	0.5 V _{RMS} / 10 kohm	⊕
7	- Video Blue	0.7 V _{PP} / 75 ohm	⊕
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	⊕
9	- Ground Green	Gnd	⊥
10	- n.c.		
11	- Video Green	0.7 V _{PP} / 75 ohm	⊕
12	- n.c.		
13	- Ground Red	Gnd	⊥
14	- Ground	Gnd	⊥
15	- Video Red	0.7 V _{PP} / 75 ohm	⊕
16	- Status/FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	⊕
17	- Ground Video	Gnd	⊥
18	- Ground FBL	Gnd	⊥
19	- Video Terr. CVBS	1 V _{PP} / 75 ohm	⊕
20	- Video CVBS/Y	1 V _{PP} / 75 ohm	⊕
21	- Shield	Gnd	⊥

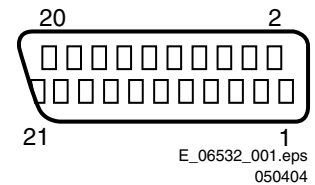
EXT2: Video Y/C - in, CVBS - In/Out, Audio - In/Out

Figure 1-5 SCART connector

1	- Audio R	0.5 V _{RMS} / 1 kohm	⊕
2	- Audio R	0.5 V _{RMS} / 10 kohm	⊕
3	- Audio L	0.5 V _{RMS} / 1 kohm	⊕
4	- Ground Audio	Gnd	⊥
5	- Ground Blue	Gnd	⊥
6	- Audio L	0.5 V _{RMS} / 10 kohm	⊕
7	- n.c.		
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	⊕
9	- Ground Green	Gnd	⊥
10	- n.c.		
11	- n.c.		
12	- n.c.		
13	- Ground Red	Gnd	⊥
14	- Ground	Gnd	⊥
15	- YC/C - in	0.7 V _{PP} / 75 ohm	⊕
16	- n.c.		
17	- Ground Video	Gnd	⊥
18	- Ground	Gnd	⊥
19	- Video Mon. CVBS	1 V _{PP} / 75 ohm	⊕
20	- YC/Y - in	0.7 V _{PP} / 75 ohm	⊕
21	- Shield	Gnd	⊥

1.3 Chassis Overview

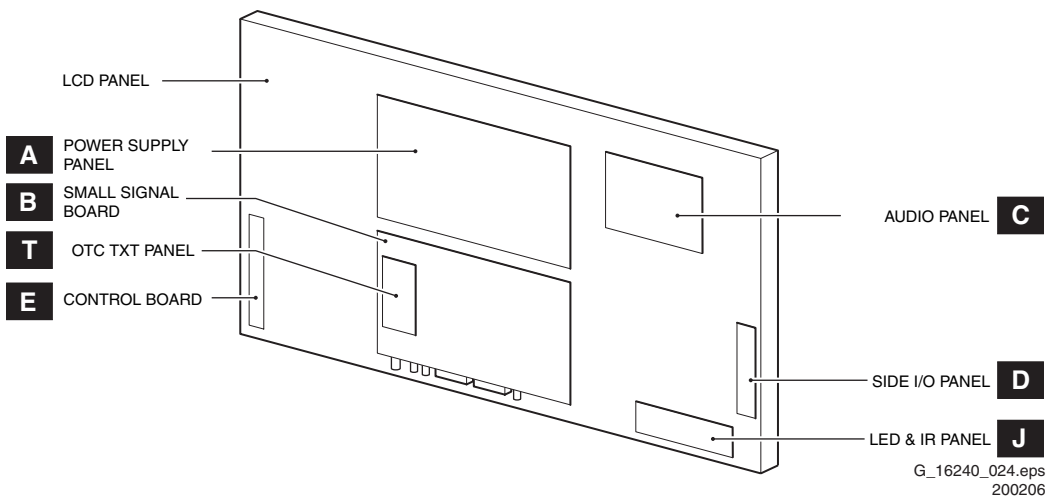


Figure 1-6 Chassis overview

2. Safety Instructions, Warnings, and Notes

Index of this chapter:

- 2.1 Safety Instructions
- 2.2 Warnings
- 2.3 Notes

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains (AC Power) via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol , only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains (AC Power) lead for external damage.
- Check the strain relief of the Mains (AC Power) cord for proper function.
- Check the electrical DC resistance between the Mains (AC Power) plug and the secondary side (only for sets that have a Mains (AC Power) isolated power supply):
 1. Unplug the Mains (AC Power) cord and connect a wire between the two pins of the Mains (AC Power) plug.
 2. Set the Mains (AC Power) switch to the "on" position (keep the Mains (AC Power) cord unplugged!).
 3. Measure the resistance value between the pins of the Mains (AC Power) plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
 4. Switch "off" the set, and remove the wire between the two pins of the Mains (AC Power) plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD ) . Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
 - Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
 - Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched "on".
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground () , or hot ground () , depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).
- Where necessary, measure the waveforms and voltages with () and without () aerial signal. Measure the voltages in the power supply section both in normal operation () and in stand-by () . These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads ($\mu = \times 10^{-6}$), nano-farads ($n = \times 10^{-9}$), or pico-farads ($p = \times 10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 Rework on BGA (Ball Grid Array) ICs

General

Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

Device Removal

As is the case with any component that, is being removed, it is essential when removing an (LF)BGA, that the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature. A uniform temperature reduces the risk of warping the PWB. To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

Area Preparation

When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA. Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent.

After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA.

Note: Do not apply solder paste, as this has been shown to result in problems during re-soldering.

Device Replacement

The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

More Information

For more information on how to handle BGA devices, visit this URL: www.atyourservice.ce.philips.com (needs subscription, not available for all regions). After login, select "Magazine", then go to "Repair downloads". Here you will find Information on how to deal with BGA-ICs.

2.3.4 Lead-free Solder

Philips CE is producing lead-free sets (PBF) from 1.1.2005 onwards.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 5 and 6 refer to the production year, digits 7 and 8 refer to production week (in example below it is 1991 week 18).



Figure 2-1 Serial number example

Regardless of the special lead-free logo (which is not always indicated), one must treat all sets from this date onwards according to the rules as described below.



Figure 2-2 Lead-free logo

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within

workshops should be avoided because paste is not easy to store and to handle.

- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
 - To reach a solder-tip temperature of at least 400°C.
 - To stabilise the adjusted temperature at the solder-tip.
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilised at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed. To avoid wear-out of tips, switch "off" unused equipment or reduce heat.
- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly to **avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.
- Use only original spare-parts listed in the Service-Manuals. Not listed standard material (commodities) has to be purchased at external companies.
- Special information for lead-free BGA ICs: these ICs will be delivered in so-called "dry-packaging" to protect the IC against moisture. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets "wet" inside and during the heating time the structure of the IC will be destroyed due to high (steam-) pressure inside the body. If the packaging was opened before usage, the IC has to be heated up for some hours (around 90°C) for drying (think of ESD-protection!).
Do not re-use BGAs at all!
- For sets produced before 1.1.2005, containing leaded soldering tin and components, all needed spare parts will be available till the end of the service period. For the repair of such sets nothing changes.

In case of doubt whether the board is lead-free or not (or with mixed technologies), you can use the following method:

- Always use the highest temperature to solder, when using SAC305 (see also instructions below).
- De-solder thoroughly (clean solder joints to avoid the mixing of two alloys).

Caution: For BGA-ICs, you **must** use the correct temperature profile, which is coupled to the 12NC. For an overview of these profiles, visit the website www.atyourservice.ce.philips.com (needs subscription, and is not available for all regions). You will find this and more technical information within the "Magazine", chapter "Repair downloads".

For additional questions please contact your local repair help desk.

2.3.5 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages.** While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for Use

You can download this information from the following websites:

<http://www.philips.com/support>

<http://www.p4c.philips.com>

4. Mechanical Instructions

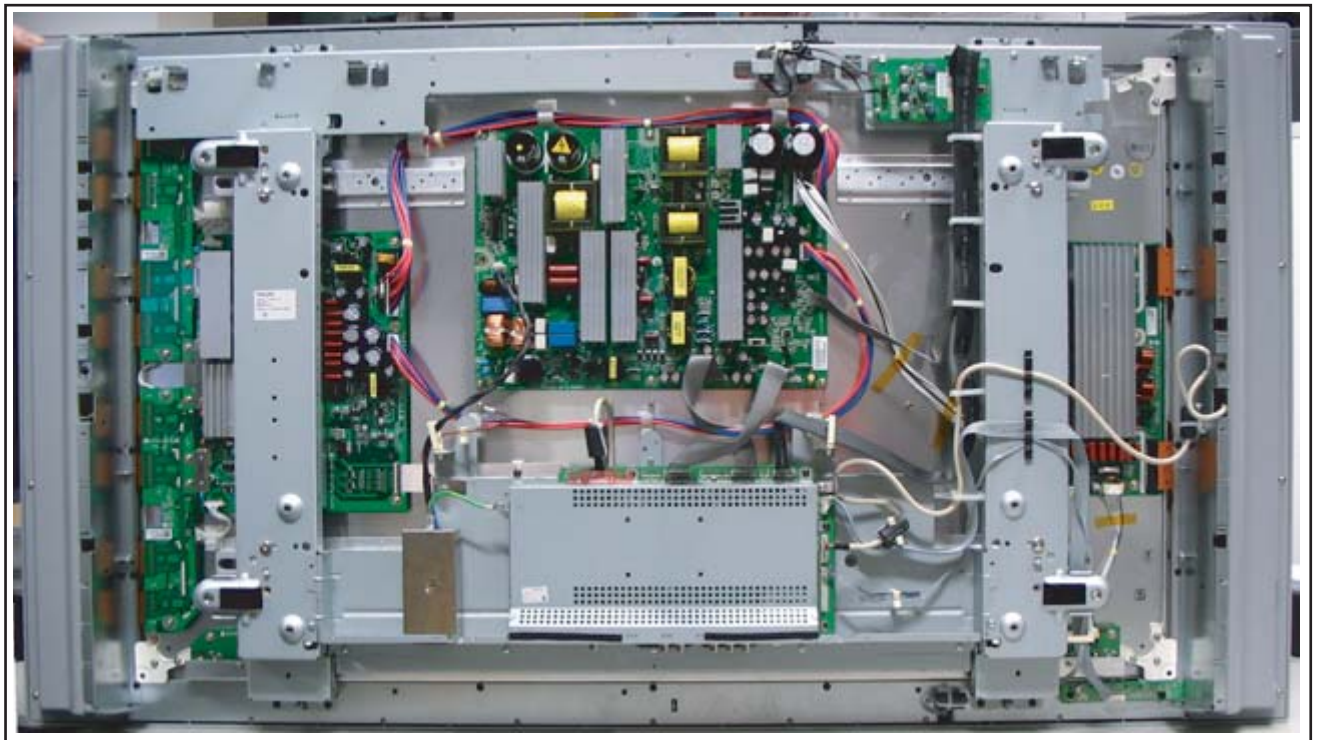
Index of this chapter:

- 4.1 Cable Dressing
- 4.2 Service Position
- 4.3 Assy/Panel Removal
- 4.4 Set Re-assembly

Notes:

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassembling instructions in described order.

4.1 Cable Dressing



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Figure 4-1 Cable dressing

4.2 Service Position

First, put the TV set in its service position. Therefore, place it upside down on a table top (use a protection sheet or foam bars).

mirror flat on the table under the TV you can easily see if something is happening on the screen.

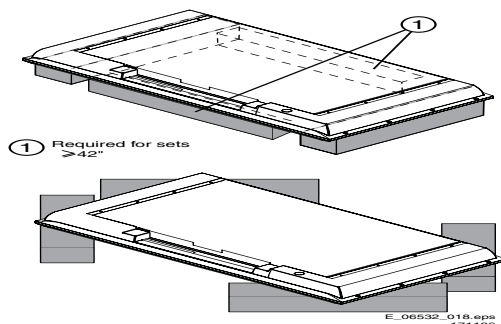
4.3 Assy/Panel Removal

4.3.1 Rear Cover

Warning: Disconnect the mains power cord before you remove the rear cover.

1. Remove the screws that secure the rear cover.
2. Lift the rear cover from the cabinet cautiously. Make sure that wires and other internal components are not damaged during cover removal.

4.2.1 The Foam Bars



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Figure 4-2 Foam bars

The foam bars (order code 3122 785 90580) can be used for all types and sizes of Flat TVs. By laying the plasma TV flat on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By first placing a

4.3.2 Side I/O Panel

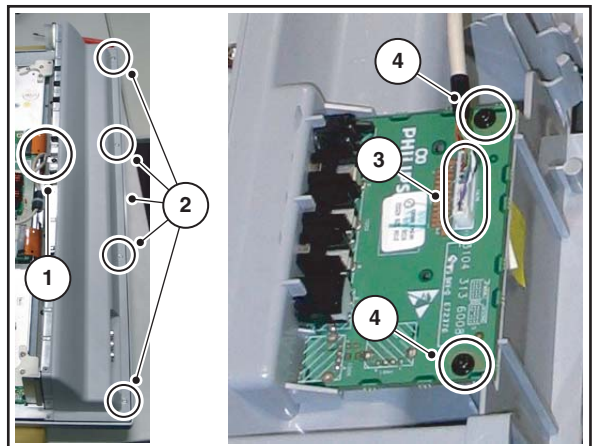
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Figure 4-3 Side I/O panel

1. Remove the rear panel.
2. Remove the screw from the cable clip [1].
3. Remove the screws [2] from the loudspeaker cabinet.
4. Lift the loudspeaker cabinet from the frame.
5. Disconnect the cable [3] from the panel.
6. Remove the fixation screws [4], and slide the panel out of its bracket.

4.3.3 LED Panel

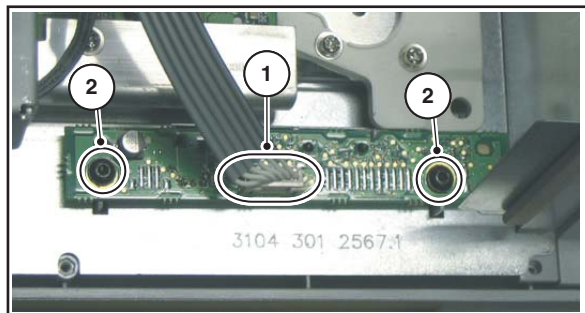
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Figure 4-4 LED panel

1. Remove the rear panel.
2. Disconnect the cable [1] from the panel.
3. Remove the fixation screws [2].
4. Remove the panel.

4.3.4 Keyboard Control Panel

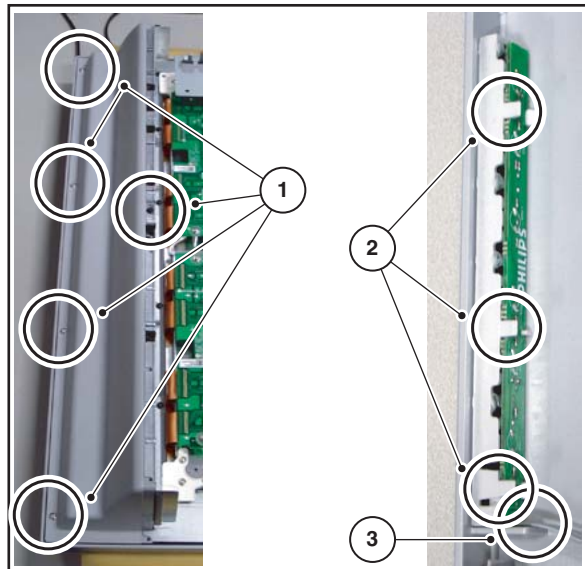
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Figure 4-5 Keyboard control panel

1. Remove the rear panel.
2. Remove the screws [1] from the loudspeaker cabinet.
3. Lift the loudspeaker cabinet from the frame.
4. Release the three fixation clamps [2] and pull the panel out of the bracket.
5. Disconnect the cable [3] from the panel.

4.3.5 Small Signal Board

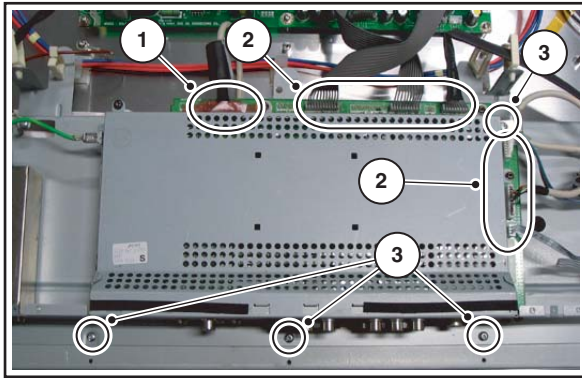
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Figure 4-6 SSB connectors

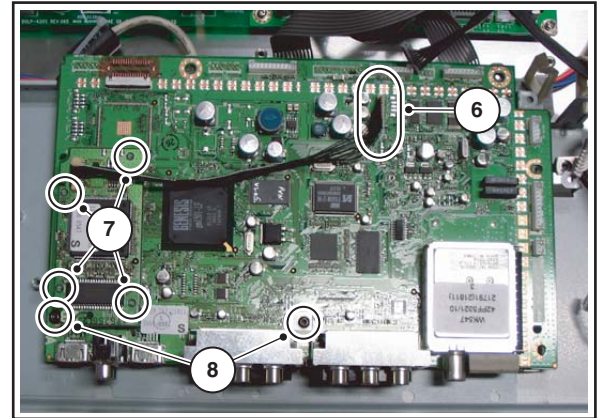
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Figure 4-9 SSB panel

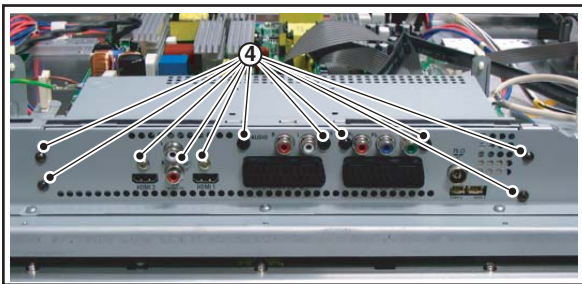
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Figure 4-7 Connector screws

1. Very **cautiously** disconnect the LVDS cable [1] from the panel (see Figure “SSB connectors”). Notice that this cable is very fragile.
2. Disconnect the other cables [2] from the panel.
3. Remove the fixation screws [3].
4. Remove the fixation screws [4] from the connector plate (see Figure “Connector screws”).
5. Slide the SSB module a few centimetres away from the connector plate (see Figure “SSB shield”).
6. Remove the fixation screws [5] and lift the shield from the SSB module.
7. Disconnect connector [6] (see Figure “SSB panel”).
8. Unlock the catches [7] and lift the OTC TXT panel from the SSB panel.
9. Remove the fixation screws [8].
10. Remove the SSB panel.

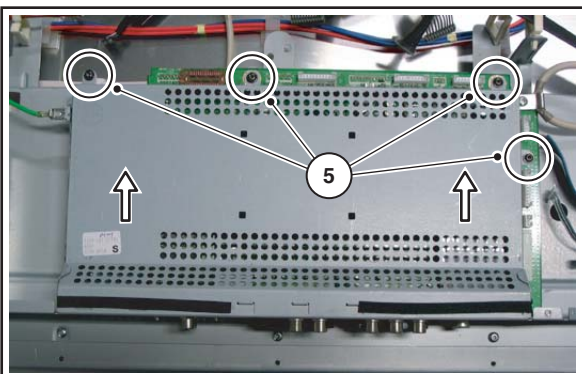
G_16240_017.eps
250706

Figure 4-8 SSB shield

4.3.6 Audio Amplifier Panel

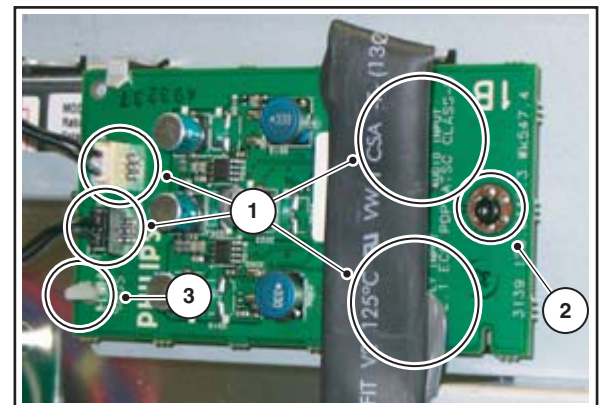
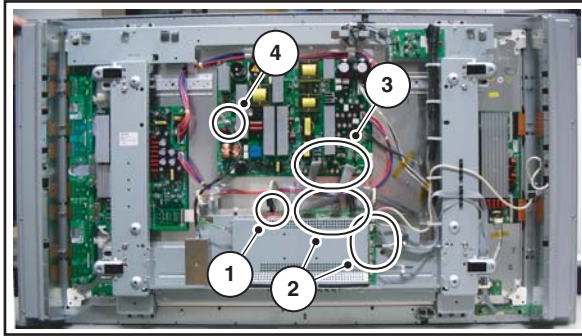
G_16240_019.eps
160206

Figure 4-10 Audio amplifier panel

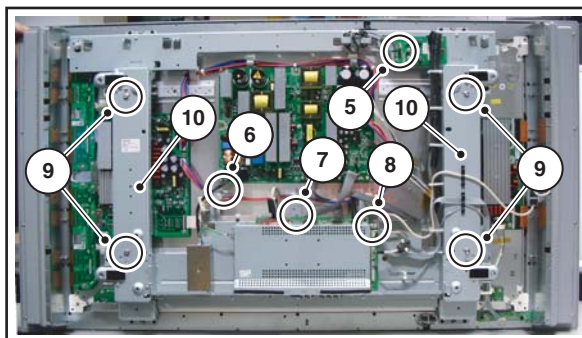
1. Disconnect all cables [1] from the panel.
2. Remove the fixation screws [2] from the panel.
3. Remove the panel.

4.3.7 Plasma Panel



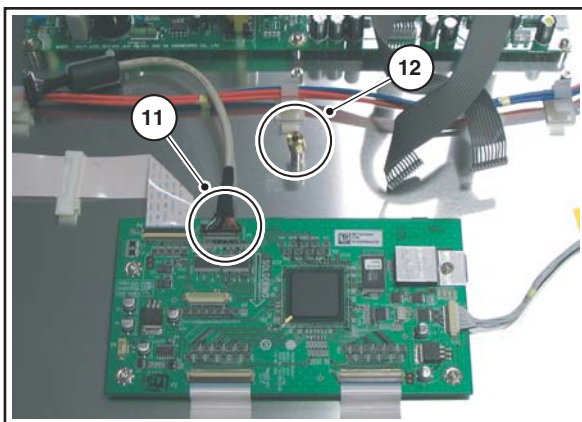
G_16240_020.eps
160206

Figure 4-11 Plasma panel removal (1/3)



G_16240_021.eps
170206

Figure 4-12 Plasma panel removal (2/3)



G_16240_022.eps
160206

Figure 4-13 Plasma panel removal (3/3)

To remove the Plasma-panel, carry out the following steps:

1. Remove the rear cover from the set.
2. **Cautiously** unplug the LVDS connector [1] from the SSB panel (see Figure "LVDS connector").
Be careful, as this is a very fragile connector/cable!
3. Unplug the other connectors [2] from the SSB panel.
4. Unplug the connectors 1M03 and 1M46 [3] from the Power Supply board.
5. Unplug the power connector CN1305 [4] from the Power Supply board.
6. Unplug the connectors [5] from the Audio Panel.
7. Loosen the fixation screw [6] from the earth tab on the display.
8. Loosen the fixation screw [7] just above the SSB panel.
9. Loosen screw [8] with the cable clamp.
10. Release all disconnected cables from the (mostly plastic) guidances on the frame.
11. Loosen screws [9].
12. Lift the metal frame [10] (together with the SSB) from the plasma panel.
13. **Cautiously** unplug the LVDS connector [11] from the Logic Board of the Plasma panel (see Figure "Logic Board").
Be careful, as this is a very fragile connector/cable!
14. Remove the bronze bushing [12] from the stud on the plasma panel.
15. Now you can lift the Plasma display from its plastic frame.
16. If the plastic frame is damaged, replace it by a new frame, after removing the loudspeakers, the Side I/O panel, the Side Control panel, and the LED panel.

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original positions. See Figure "Cable dressing".
Be careful with the fragile LVDS cable.

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

- 5.1 Test Points
- 5.2 Service Modes
- 5.3 Problems and Solving Tips Related to CSM
- 5.4 Service Tools
- 5.5 Error Codes
- 5.6 The Blinking LED Procedure
- 5.7 Fault Finding and Repair Tips

5.1 Test Points

This chassis is equipped with test points. In the schematics, test points are indicated with a rectangle box around Fxxx or Ixxx, in the layouts with a half-moon.

Perform measurements under the following conditions:

- Television set in Service Default Mode.
- Video input: Colour bar signal.
- Audio input: 3 kHz left channel, 1 kHz right channel.

5.2 Service Modes

Service Default mode (SDM) and Service Alignment Mode (SAM) offer several features for the service technician, while the Customer Service Mode (CSM) is used for communication between the call centre and the customer.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the possibilities of structured troubleshooting, error code reading, and software version read-out for all chassis.

Minimum requirements for ComPair: a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph "ComPair").

5.2.1 Service Default Mode (SDM)

Purpose

- To create a predefined setting for measurements to be made.
- To override software protections.
- To start the blinking LED procedure.
- To inspect the error buffer.
- To check the life timer.

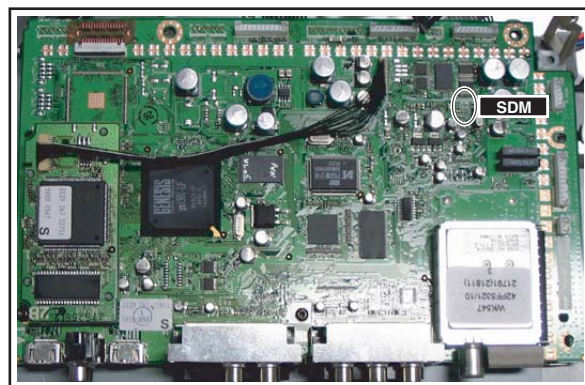
Specifications

- Tuning frequency: 475.25 MHz.
- Colour system: PAL-BG.
- All picture settings at 50% (brightness, colour contrast, hue).
- Bass, treble, and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled. The service unfriendly modes are:
 - Timer / Sleep timer.
 - Child / parental lock.
 - Blue mute.
 - Hotel / hospital mode.
 - Auto shut off (when no "IDENT" video signal is received for 15 minutes).
 - Skipping of non-favourite presets / channels.
 - Auto-storage of personal presets.
 - Auto user menu time-out.
 - Auto Volume Levelling (AVL).

How to Enter

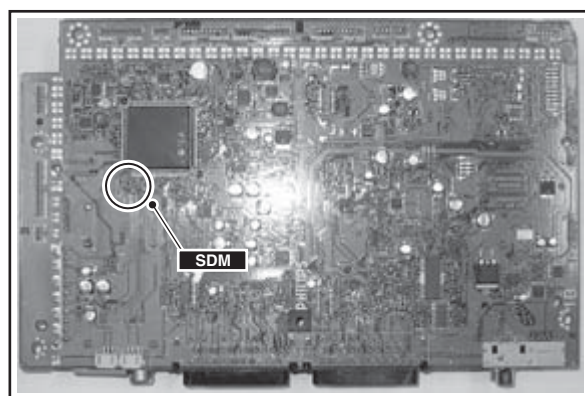
To enter SDM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "062596" directly followed by the MENU button (do not allow the display to time out between entries while keying the sequence).
 - Short one of the "Service" jumpers on the TV board during cold start and apply mains (see Figures "Service jumper"). Then press the mains button (remove the short after start-up).
- Caution:** Entering SDM by shorting "Service" jumpers will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.
- Or via ComPair.



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160206

Figure 5-1 Service jumper (component side)



G_16210_088.eps
200106

Figure 5-2 Service jumper (solder side)

After entering SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Mode.


```

LLLLL AAABCD X.YY/EEEE F.GG  SDM
ERR 0 0 0 0 0
OP 152 165 047 113 252 027 019

```

G_16240_025.eps
200206

Figure 5-3 SDM menu (the values are indicative)

How to Navigate

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch on the normal user menu in the SDM mode.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SDM to SAM and reverse; or press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD button to switch to SAM (do not allow the display to time out between entries while keying the sequence).

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set. If you turn the television set off by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SDM when mains is re-applied, and the error buffer is not cleared.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

Specifications

- Operation hours counter (maximum five digits displayed).
- Software version, Error codes, and Option settings display.
- Error buffer clearing.
- Option settings.
- Software alignments (Tuner, White Tone, Geometry & Audio).
- NVM Editor.
- ComPair Mode switching.

How to Enter

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD/STATUS/INFO(I+) button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.

```

LLLLL AAABCD X.YY/EEEE F.GG  SAM
ERR 0 0 0 0 0

OP 152 165 047 113 252 027 019

. Clear                      Clear ? ►
. Options                    ►
. Tuner                      ►
. White Tone                 ►
. Audio                      ►
. NVM Editor                 ►
. SC NVM Editor              ►
. Test Pattern               ► On
. ComPair Mode               ► Off

```

G_16240_026.eps
200206

Figure 5-4 SAM menu (the values are indicative)

Menu Explanation

1. **LLLLL**. This represents the run timer. The run timer counts normal operation hours, but does not count standby hours.
2. **AAABCD X.YY**. This is the software identification of the main microprocessor:
 - **A**= the project name (LC04.x).
 - **B**= the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
 - **C**= the software diversity:
 - **Europe**: T= 1 page TXT, F= Full TXT, V= Voice control.
 - **LATAM and NAFTA**: N= Stereo non-dBx, S= Stereo dBx.
 - **Asian Pacific**: T= TXT, N= non-TXT, C= NTSC.
 - **ALL regions**: M= mono, D= DVD, Q= Mk2.
 - **D**= the language cluster number.
 - **X**= the main software version number (updated with a major change that is incompatible with previous versions).
 - **Y**= the sub software version number (updated with a minor change that is compatible with previous versions).
3. **EEEE F.GG**. This is the software identification of theScaler:
 - **EEEE**= the scaler sw cluster
 - **F**= the main sw version no.
 - **GG**= the sub-version no.
4. **SAM**. Indication of the Service Alignment Mode.
5. **Error Buffer**. Shows all errors detected since the last time the buffer was erased. Five errors possible.
6. **Option Bytes**. Used to read-out the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
7. **Clear**. Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
8. **Options**. Used to set the option bits. See "Options" in the Alignments section for a detailed description.
9. **Tuner**. Used to align the tuner. See "Tuner" in the Alignments section for a detailed description.
10. **White Tone**. Used to align the white tone. See "White Tone" in the Alignments section for a detailed description.
11. **Audio**. No audio alignment is necessary for this television set.

12. **NVM Editor.** Can be used to change the NVM data in the television set. See table "NVM data" further on.
13. **SC NVM Editor.** Can be used to edit Scaler NVM.
14. **Test pattern.** No function in this set.
15. **ComPair.** Can be used to switch on the television to In System Programming (ISP) mode, for software uploading via ComPair.

Caution: When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.

How to Navigate

- In SAM, select menu items with the MENU UP/DOWN keys on the remote control transmitter. The selected item will be indicated. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
 - Activate the selected menu item.
 - Change the value of the selected menu item.
 - Activate the selected submenu.
- In SAM, when you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the MENU button.
- When you press the MENU key in while in a submenu, you will return to the previous menu.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SAM to SDM and reverse; or press the following key sequence on the remote control transmitter: "**062596**" directly followed by the MENU button to switch to SDM (do not allow the display to time out between entries while keying the sequence).

How to Store SAM Settings

To store the settings changed in SAM mode, leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set.

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.

If you turn the television set "off" by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SAM when mains is re-applied, and the error buffer is not cleared.

5.2.3 Customer Service Mode (CSM)

Purpose

The Customer Service Mode shows error codes and information on the TV's operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.

The CSM is a read-only mode; therefore, modifications are not possible in this mode.

How to Enter

To enter CSM, press the following key sequence on the remote control transmitter: "**123654**" (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:

```

1 LLLLL AAABCD X.YY/EEEE F.GG CSM
2 CODES 0 0 0 0 0
3 OP 152 165 047 113 252 027 019
4 26PF5321/10
5 AAAAAA/B.CC
6
7 PAL
8 STEREO
9 CO 70 CL 50 BR 60
0 AVL On
  
```

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200206

Figure 5-5 CSM menu (the values are indicative)

Menu Explanation

1. Indication of the decimal value of the operation hours counter, Main/Scaler software version (see "Service Alignment Mode" for an explanation), and the service mode (CSM = Customer Service Mode).
2. Displays the last five errors detected in the error code buffer.
3. Displays the option bytes.
4. Displays the type number version of the set.
5. **AAAAAA / B.CCC** Firmware identification of the Pacific 3 and the OTC:
 - **AAAAAA** = the firmware version of the Pacific 3 (Pixel+)
 - **B.CCC** = the firmware version of the OTC (for the 1000 page TXT decoder).
6. Indicates the television is receiving an "IDENT" signal on the selected source. If no "IDENT" signal is detected, the display will read "NOT TUNED".
7. Displays the detected Colour system (e.g. PAL/NTSC).
8. Displays the detected Audio (e.g. stereo/mono).
9. Displays the picture setting information.
10. Displays the sound setting information.

How to Exit

To exit CSM, use one of the following methods:

- Press the MENU button twice, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

5.3 Problems and Solving Tips Related to CSM

5.3.1 Picture Problems

Note: The problems described below are all related to the TV settings. The procedures used to change the value (or status) of the different settings are described.

Picture too Dark or too Bright

If:

- The picture improves when you press the SMART PICTURE button on the remote control transmitter, or
- The picture improves when you enter the Customer Service Mode,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select BRIGHTNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

White Line around Picture Elements and Text

If:

The picture improves after you have pressed the SMART PICTURE button on the remote control transmitter,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select SHARPNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

Snowy Picture

Check CSM line 6. If this line reads "Not Tuned", check the following:

- Antenna not connected. Connect the antenna.
- No antenna signal or bad antenna signal. Connect a proper antenna signal.
- The tuner is faulty (in this case line 2, the Error Buffer line, will contain error number 10). Check the tuner and replace/repair the tuner if necessary.

Black and White Picture

If:

- The picture improves after you have pressed the SMART PICTURE button on the remote control transmitter,

Then:

1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select COLOUR.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.

8. Press the MENU RIGHT key to store the new value.

9. Press the MENU key to exit the PERSONAL picture mode.

5.4 Service Tools

5.4.1 ComPair

Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
2. ComPair allows very detailed diagnostics (on I²C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I²C commands yourself because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the Force/SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

Specifications

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial (or RS-232) cable.

For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector(s).

The ComPair fault finding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- Automatically (by communicating with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I²C/UART level. ComPair can access the I²C/UART bus of the television. ComPair can send and receive I²C/UART commands to the micro controller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I²C/UART buses of the TV-set.
- Manually (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the fault finding tree by asking you questions (*e.g. Does the screen give a picture? Click on the correct answer: YES / NO*) and showing you examples (*e.g. Measure test-point 17 and click on the correct oscillogram you see on the oscilloscope*). You can answer by clicking on a link (*e.g. text or a waveform picture*) that will bring you to the next step in the fault finding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

How to Connect

This is described in the chassis fault finding database in ComPair.

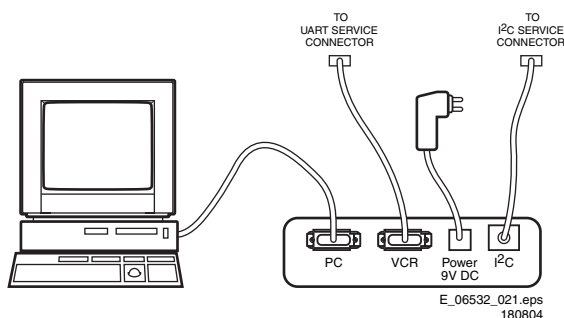


Figure 5-6 ComPair interface connection

How to Order

- ComPair order codes (EU/AP/LATAM):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excl. transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60070 (year 2002), 3122 785 60110 (year 2003 onwards).
- SearchMan32 CD (update): 3122 785 60080 (year 2002), 3122 785 60120 (year 2003), 3122 785 60130 (year 2004).
- ComPair firmware upgrade IC: 3122 785 90510.
- Transformer (non-UK): 4822 727 21632.
- Transformer (UK): 4822 727 21633.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

Note: If you encounter any problems, contact your local support desk.

5.4.2 LVDS Tool

Introduction

This service tool (also called "ComPair Assistant 1") may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) or the display of a Flat TV is defective.

Furthermore it is possible to program EPLDs with this tool (Byte blaster). Read the user manual for an explanation of this feature.

Since 2004, the LVDS output connectors in our Flat TV models are standardised (with some exceptions). With the two delivered LVDS interface cables (31p and 20p) you can cover most chassis (in special cases, an extra cable will be offered).

When operating, the tool will show a small (scaled) picture on a VGA monitor. Due to a limited memory capacity, it is not possible to increase the size when processing high-resolution LVDS signals (> 1280x960). Below this resolution, or when a DVI monitor is used, the displayed picture will be full size.

Generally this tool is intended to determine if the SSB is working or not. Thus to determine if LVDS, RGB, and sync signals are okay.

How to Connect

Connections are explained in the user manual, which is packed with the tool.

Note: To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version >= 2.2.05). For every TV type number and screen size, one must choose the proper settings via ComPair. The ComPair file will be updated regularly with new introduced chassis information.

How to Order

- LVDS tool (incl. two LVDS cables: 31p and 20p): 3122 785 90671.
- LVDS tool Service Manual: 3122 785 00810.
- LVDS cable 30p (for LC4.3): 3122 785 90821 (available soon).
- LVDS cable 41p -> 31p for HD PDPs (dual -> single LVDS): 3122 785 90831 (available soon).

5.5 Error Codes

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

5.5.1 How to Read the Error Buffer

You can read the error buffer in 3 ways:

- On screen via the SAM (if you have a picture).
Examples:
 - ERROR: 0 0 0 0 0 : No errors detected
 - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
 - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See "The Blinking LED Procedure".
- Via ComPair.

5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:

- By using the CLEAR command in the SAM menu:
 - To enter SAM, press the following key sequence on the remote control transmitter: "062596" directly followed by the OSD/i+ button (do not allow the display to time out between entries while keying the sequence).
 - Make sure the menu item CLEAR is selected. Use the MENU UP/DOWN buttons, if necessary.
 - Press the MENU RIGHT button to clear the error buffer. The text on the right side of the "CLEAR" line will change from "CLEAR?" to "CLEARED"
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

Note: If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

5.5.3 Error Codes

In case of non-intermittent faults, write down the errors present in the error buffer and clear the error buffer before you begin the repair. This ensures that old error codes are no longer present.

If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error and not the actual cause of the problem (for example, a fault in the protection detection circuitry can also lead to a protection).

Table 5-1 Error code overview

Error	Error Description	Check Item	Diagram
0	No Error		
1	Mis-match of TV (Hercules) SW and Scaler SW	Software versions	N.A.
2	+12V from PSU error	PSU	A
3	Plasma I ² C error (only for certain plasma sets)	N.A.	N.A.
4	I ² C error while communicating with the Genesis Scaler	7801	B7 + B8
5	+5V protection	7752	B6
6	General I ² C error; communication between ADC, analogue tuner, and/or Columbus I ² C failed	1102, 7L01, 7M00	B1 + B18 + B19
7	I ² C error while communicating with ADC	7L01	B18
8	I ² C error while communicating with the Scaler EEPROM	7C01	B11
9	I ² C error while communicating with the Hercules EEPROM (NVM for TV). Remark: when the Hercules EEPROM is defective, the Hercules should operate with its default values.	7207	B2
10	I ² C error while communicating with the PLL tuner	1102	B1
11	I ² C error while communicating with the 3D combfilter IC-7M00 (Columbus)	7M00	B19
12	I ² C error while communicating with iBoard uP (only iTV sets)	N.A.	N.A.
13	I ² C error while communicating with the HDMI decoder IC-7D03 (only for NAFTA and AP)	N.A.	N.A.
14	Read-write error with the Scaler SDRAM	7B01	B10
15	I ² C error while communicating with the OTC	7001	T
16	I ² C error while communicating with EPLD or Pacific III	7N00	B20 + B21
17	I ² C error while communicating with the Digital Module (only for digital sets)	N.A.	N.A.

5.6 The Blinking LED Procedure

Using this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful when there is no picture.

When the SDM is entered, the front LED will blink the contents of the error-buffer:

- The LED blinks with as many pulses as the error code number, followed by a time period of 1.5 seconds, in which the LED is off.
- Then this sequence is repeated.

Any RC5 command terminates this sequence.

Example of error buffer: 12 9 6 0 0

After entering SDM, the following occurs:

- 1 long blink of 5 seconds to start the sequence,
- 12 short blinks followed by a pause of 1.5 seconds,
- 9 short blinks followed by a pause of 1.5 seconds,
- 6 short blinks followed by a pause of 1.5 seconds,
- 1 long blink of 1.5 seconds to finish the sequence,
- The sequence starts again with 12 short blinks.

5.7 Fault Finding and Repair Tips

Notes:

- It is assumed that the components are mounted correctly with correct values and no bad solder joints.
- Before any fault finding actions, check if the correct options are set.

5.7.1 NVM Editor

In some cases, it can be handy if one directly can change the NVM contents. This can be done with the "NVM Editor" in SAM mode. With this option, single bytes can be changed.

Caution:

- Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- Do not change the Scaler NVM settings, as this will hamper the DVI / HDMI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 5-2 NVM editor overview

	Hex	Dec	Description
.ADR	0x000A	10	Existing value
.VAL	0x0000	0	New value
.Store	Store?		

5.7.2 Load Default NVM Values

In case a blank NVM is placed or when the NVM content is corrupted, default values can be downloaded into the NVM. (For empty NVM replacement, short the SDM with a jumper and apply the mains voltage. Remember to remove the jumper after the reload is completed). After the default values are downloaded, it will be possible to start up and to start aligning the TV set. This is no longer initiated automatically; to initiate the download the following action has to be performed:

- Switch "off" the TV set by disconnecting the AC Power plug.
- Short circuit an SDM jumper (keep short-circuited).
- Press P+ or Ch+ on the local keyboard (and keep it pressed).
- Switch on the TV set via the AC Power plug.
- Keep pressing the P+/Ch+ button until the set has started up and the SDM is shown.

Alternative method:

- Go to SAM.
- Select NVM Editor (not SC NVM Editor).
- Select ADR (address) to 1 (dec).
- Change the VAL (value) to 170 (dec).
- Store the value.
- Disconnect the mains plug and wait for a few seconds.
- Reconnect the mains plug and wait until the set goes into its standby mode (red LED lights up).
- Restart the set.

5.7.3 Flash New Scaler Software

When you need to flash new scaler software, follow the instructions in ComPair. Make sure you put the set in one of the Service Modes, SDM/SAM/CSM, before you start flashing. This reduces the risk of the set hanging during the flashing procedure.

5.7.4 Tuner and IF***No Picture in RF Mode, but there is a Noise Raster***

1. Check whether picture is present in AV. If not, go to Video processing troubleshooting section.
2. If present, check if the Option settings are correct.
3. Check if all the supply voltages are present (3.3/5/8/12/33 V).
4. Check if the I²C lines are working correctly (3.3 V).
5. Manually store a known channel and check if there is IF output at Tuner pin 11.
6. Check the tuning DC voltage at pin 2 of the Tuner. The DC voltage should vary according to the frequency/channel being chosen.
7. If the tuning voltage is OK, check the tuner output, pin 11.
8. If it has no output, the Tuner may have a defect. Change the Tuner.

Sound in Picture Problem for L' System (rolling horizontal lines)

1. Check whether AGC L' in SAM mode is set to 0.
2. If yes, align the set to correct value.

Required System is not Selected Correctly

Check whether a Service jumper (#4204 & 4205, 0805 size) is present. If yes, remove it.

5.7.5 Video Processing***No Power***

1. Check +12 V and 3V3 at position 1J02.
2. If no supply, first check the connector 1J02.
3. If the connector is correct, check the power supply board.

Power Supply is Correct, but no Green LED

1. Check if the connectors 1K00 are properly inserted.
2. If they are inserted correctly, check if the 3V3 is present.

No Picture Display (blank screen with correct sound output)

1. Check whether the user menu is visible.
2. If the user menu is OK, activate teletext mode.
3. If teletext is OK, the problem is in the ADC (B18) & Columbus 3D combfilter (B19), if present (depending on model, see also paragraph "Teletext Path" in chapter 9).

Note: For fault finding purposes, it is important to know the following: in Pixel Plus and Digital Crystal Clear models, which have an ADC (B18) and Columbus 3D combfilter (B19), the digital input of the scaler is used for the digital video path (Hercules output), whereas the analogue RGB input (analogue input of the scaler) is only used for teletext. This means that no mixed mode (video plus teletext simultaneously) is possible. If there is sound and teletext, but no video and user menu (blank screen), the digital path (Hercules - ADC - Columbus - Scaler) is faulty. If there is sound but no teletext, the back-end part (Scaler - PDP panel) is faulty. In Crystal Clear models, which do not have an ADC and Columbus, the RGB path (analogue input of scaler) is used for both video and teletext.

No TV, but PC is Present

1. Check if Hsync_SDTV and Vsync_SDTV are present at pin 1 & pin13 of 7E03.
2. If they are present, check teletext output.

3. If there is no teletext output, the IC TDA150xx may be defect.

5.7.6 Power Supply***Check Fuse***

The power supply (various models are used) contains one fuse near the AC input connector X002.

1. Check with power supply in "off" state by means of ohmic measurement.
2. Fuse X102 may open in case of severe lightning strikes and/or failures in the power supply.
3. Check the standby signal at pin 10 of X200. ON is HIGH, OFF is LOW. During standby mode only the 3V3 is present at pin 10.

Protections Concept on Power Supply Board (two models)

1. **12 V output (pin 8 of X200):** Short-circuit protected by 2.5 A fuse X610. Over-voltage protection when output voltage is more than 40% above nominal value.
2. **Vaudio output (+18 or +24 V, depending on power supply model used); (pin 1 of X200):** Short-circuit proof (+18 V version has 2.5 A fuse X660). Over voltage protection when output voltage is more than 40% above nominal value.
3. **3V3STBY output (pin 3&4 of X200):** Short-circuit proof with auto-restart. Over voltage protection when output voltage is more than 40% above nominal value.
4. **24 V output (for inverter X520 & X530):** Short-circuit proof with auto-restart. Over voltage protection when output voltage is more than 40% above nominal value.

Standby Mode

1. Apply a 12 ohm load resistor of sufficient power rating to all outputs mentioned above (+12 V, +18/24 V, +3V3 and +24 V). Connect the STBY pin (pin 10 of X200) to logical "L" (low), i.e. to GND.
2. Over an input voltage range of 90 V_{AC} to 276 V_{AC} only the +3V3 STBY output shall be up.

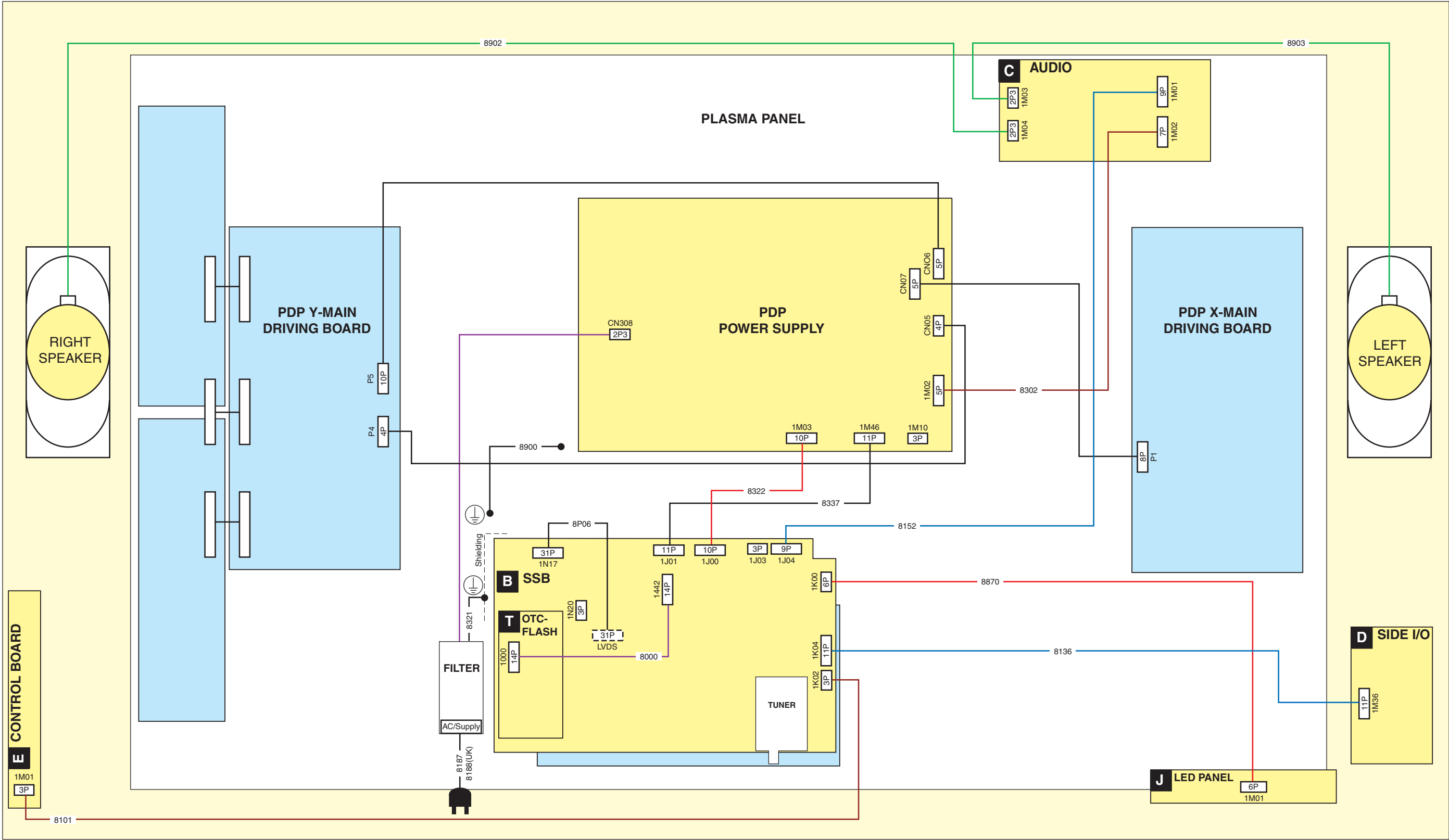
Normal Mode:

1. Apply a 12 ohm load resistor of sufficient power rating to all outputs mentioned above (+12 V, +18/24 V, +3V3 and +24 V). Connect the STBY pin (pin 10 of X200) to logical "H" (high), i.e. to the +3V3 STBY output via a 2,2 k pull up resistor.
2. Over an input voltage range of 90 V_{AC} to 276 V_{AC} all outputs shall be up. The voltage on the +3V3 STBY output shall be 3.3 V over the entire input voltage range. The voltage on the big 400 V capacitor on the power supply should also be 400 V ± 10%.

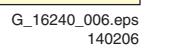
Personal Notes:

6. Block Diagrams, Test Point Overviews, and Waveforms

Wiring Diagram 42" LG
WIRING 42" FHP



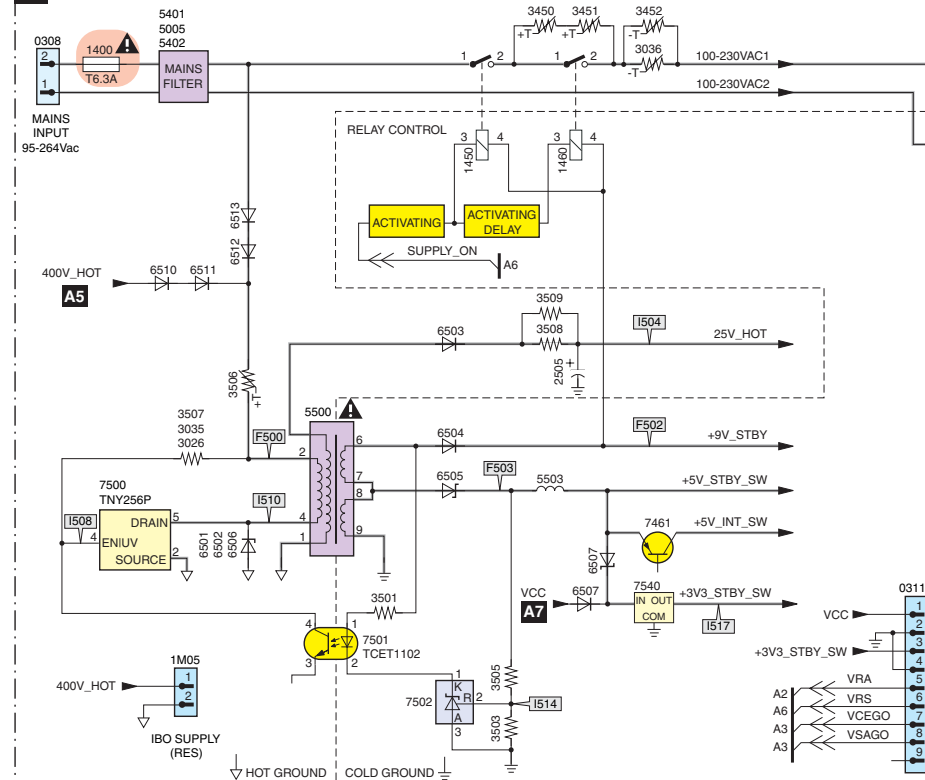
WIRING 42" & 50" SDI



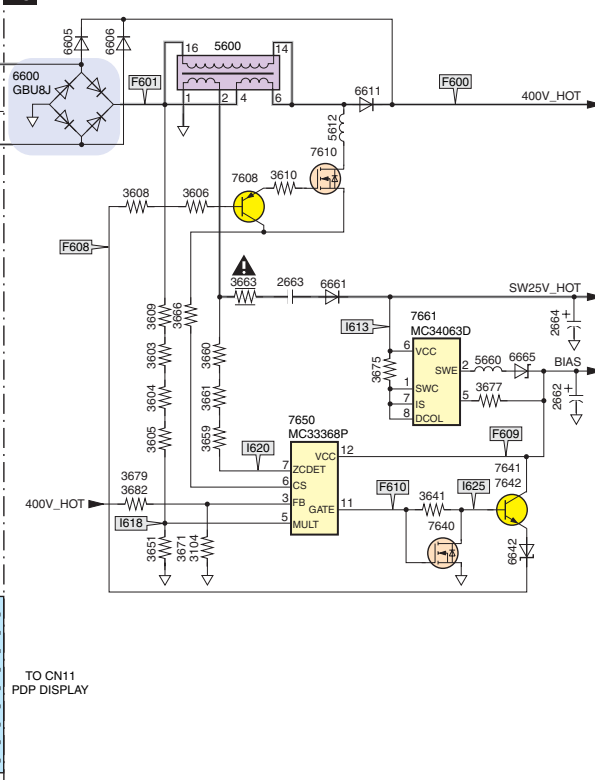
Block Diagram Supply FHP

SUPPLY 42" FHP

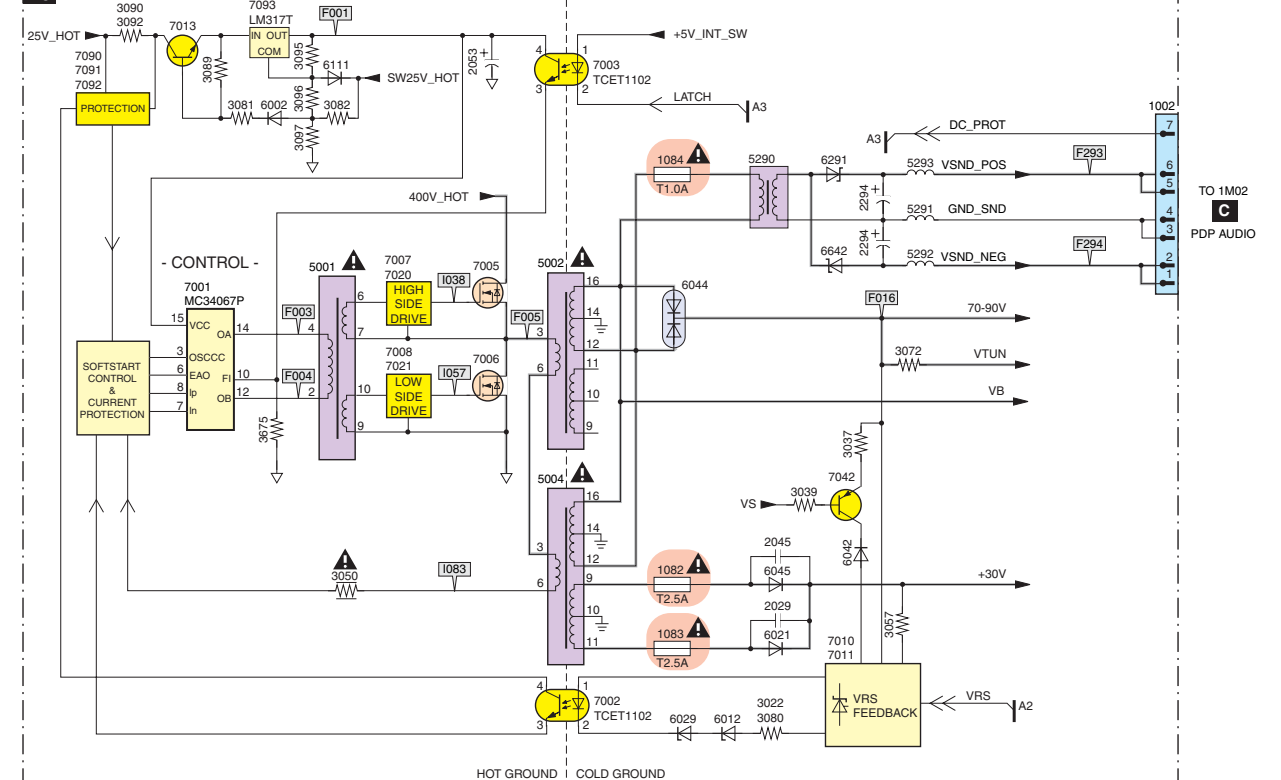
A2 FILTERS STANDBY



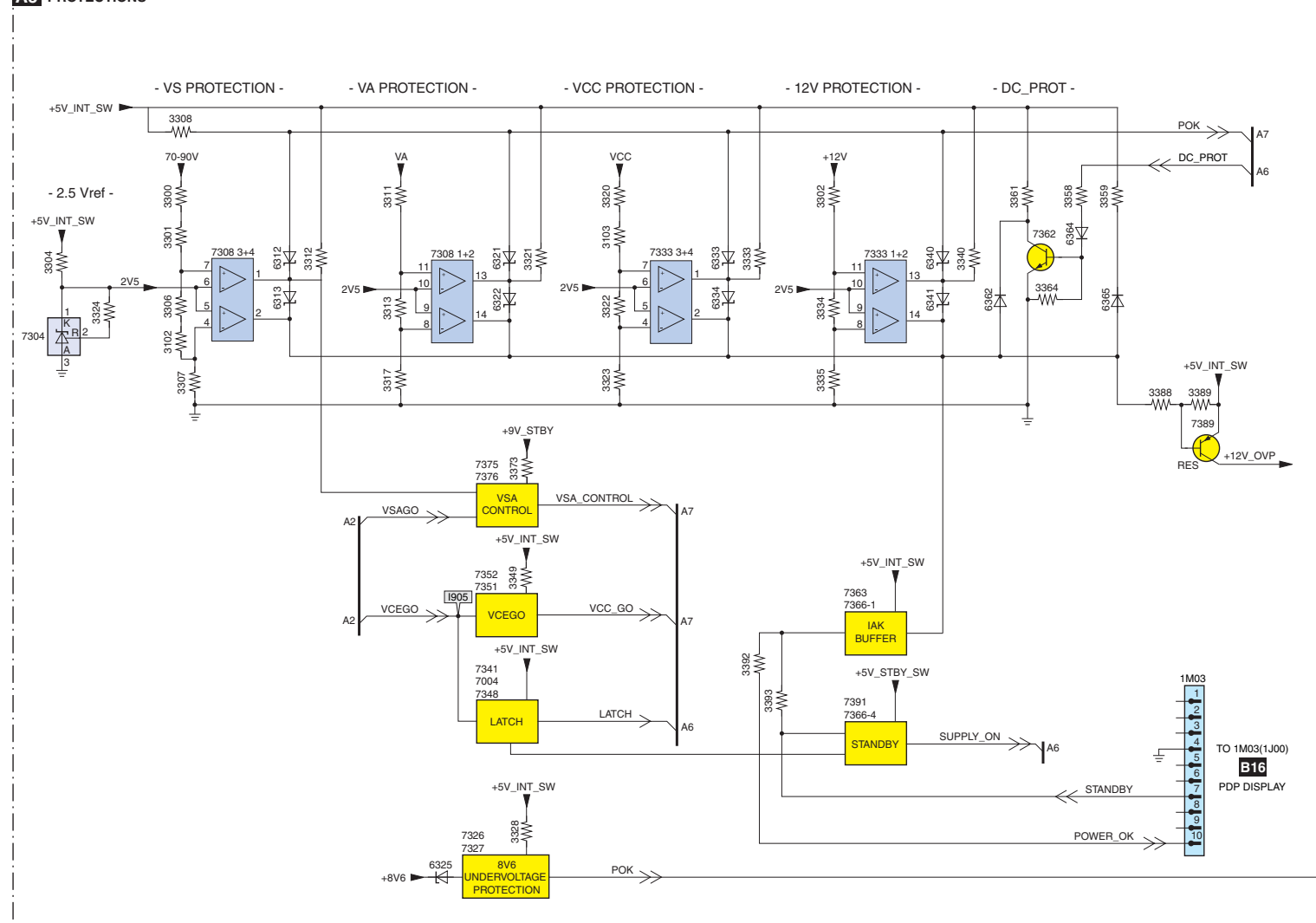
A5 PRECONDITIONER



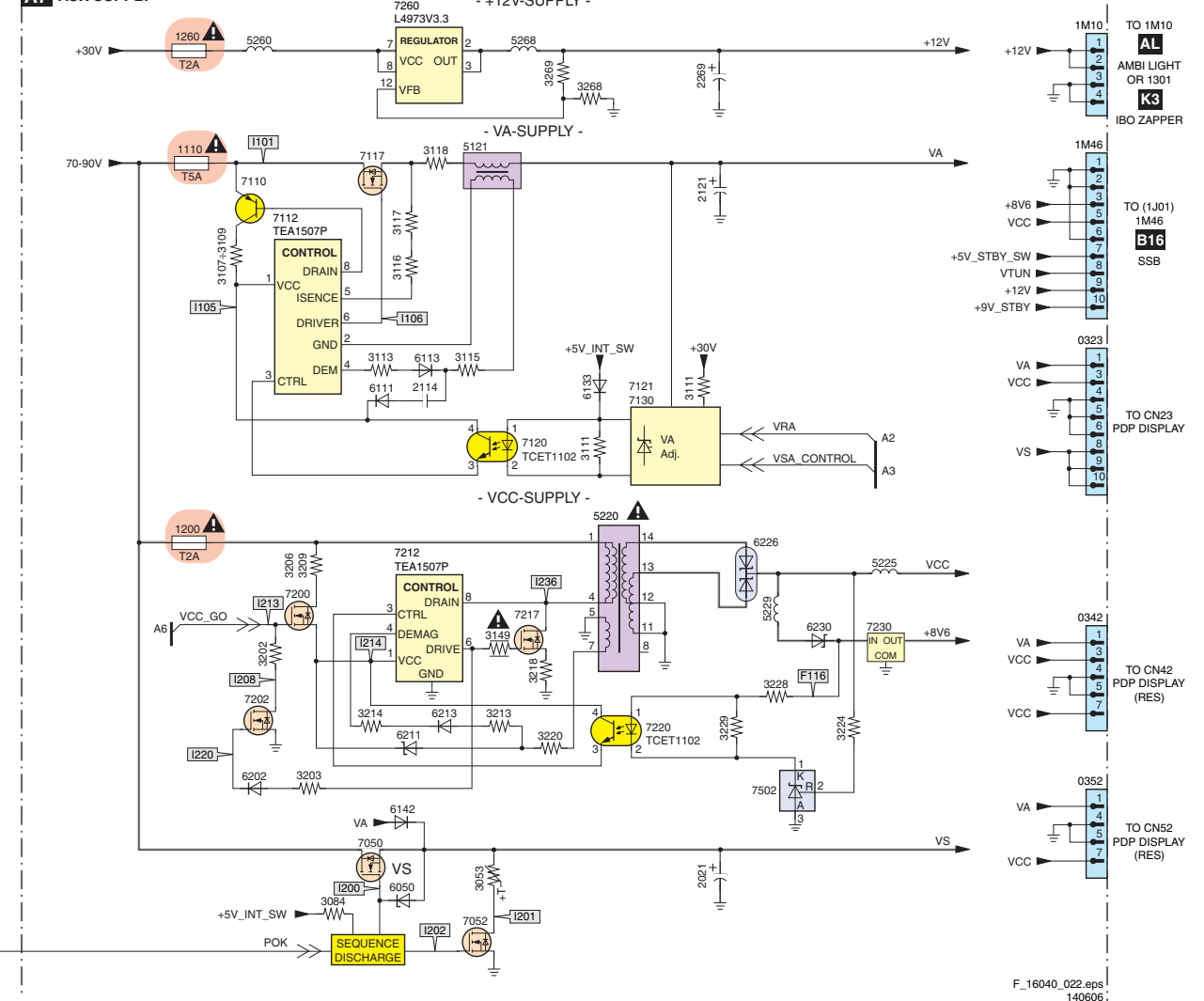
A6 LLC SUPPLY



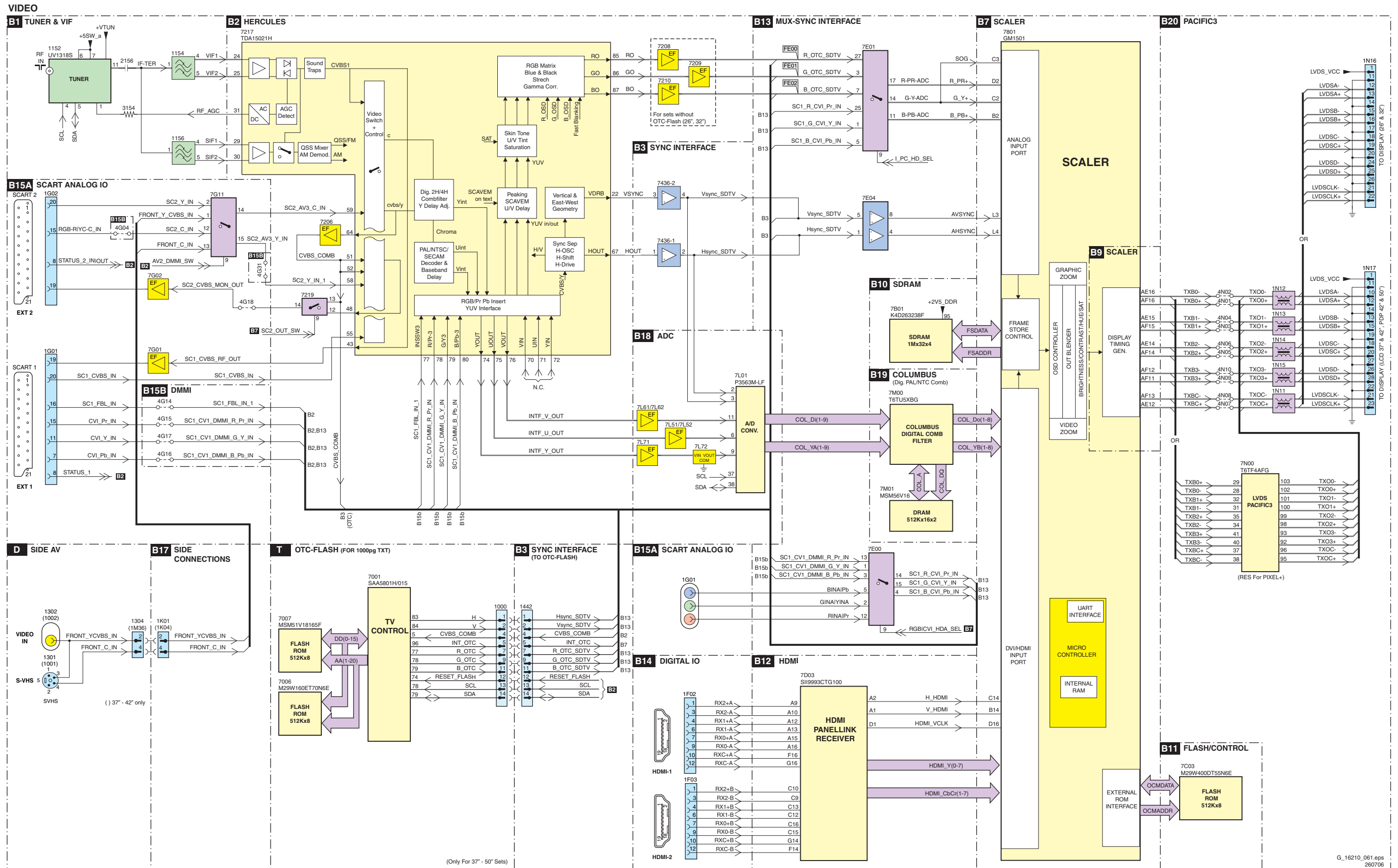
A3 PROTECTIONS



A7 AUX SUPPLY



Block Diagram Video

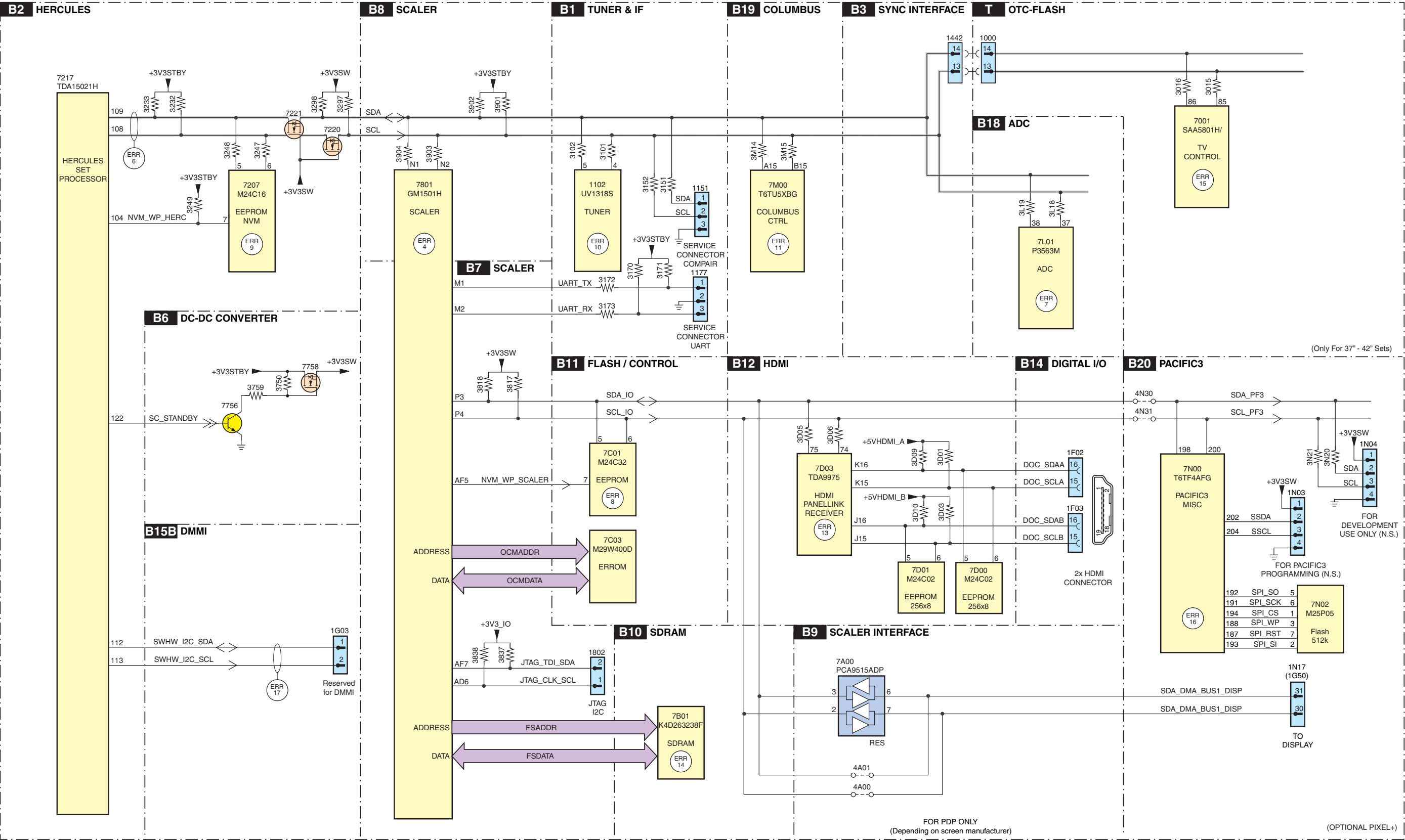


3139 123 6117.2

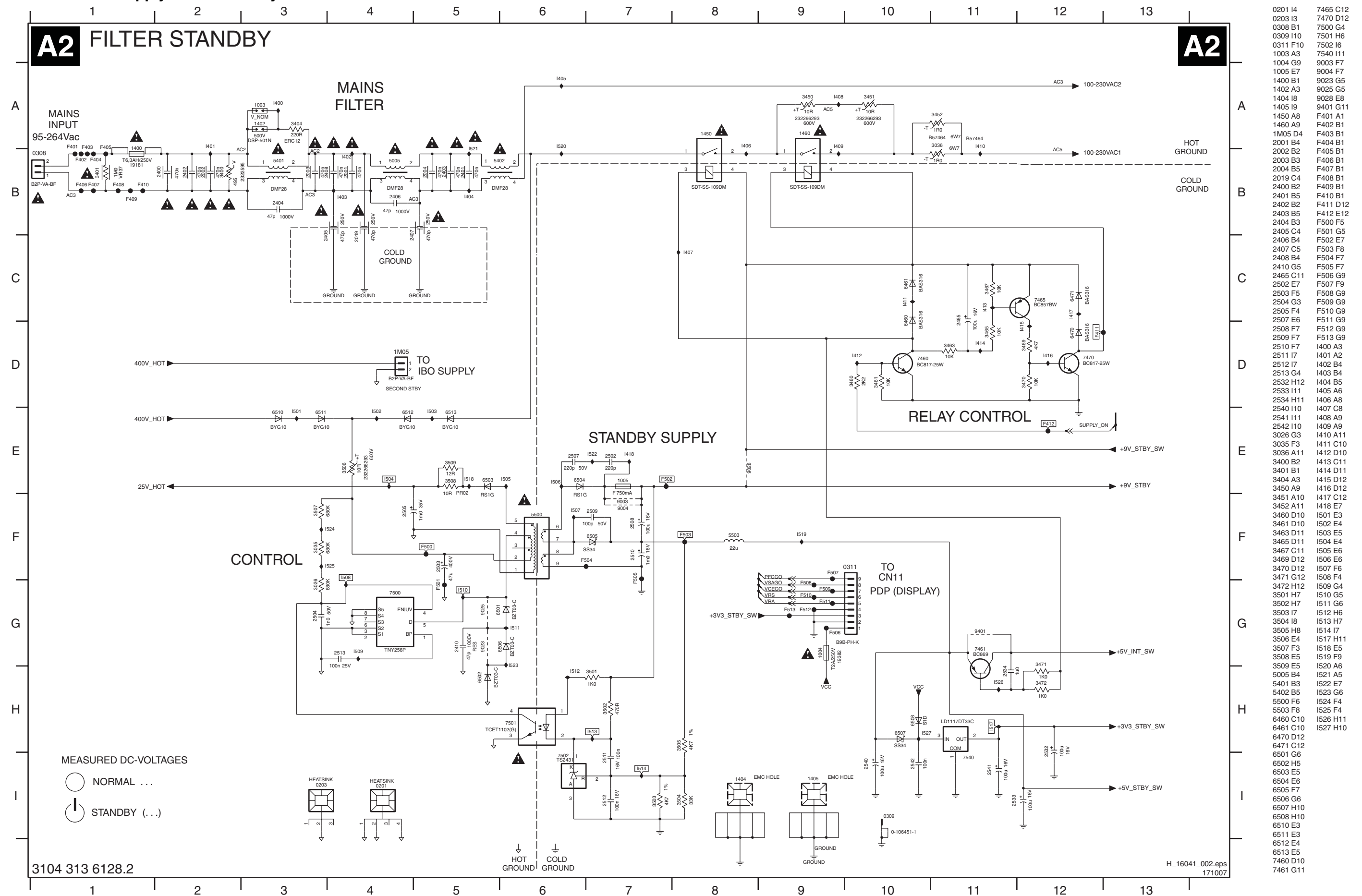
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I²C Overview

I²C

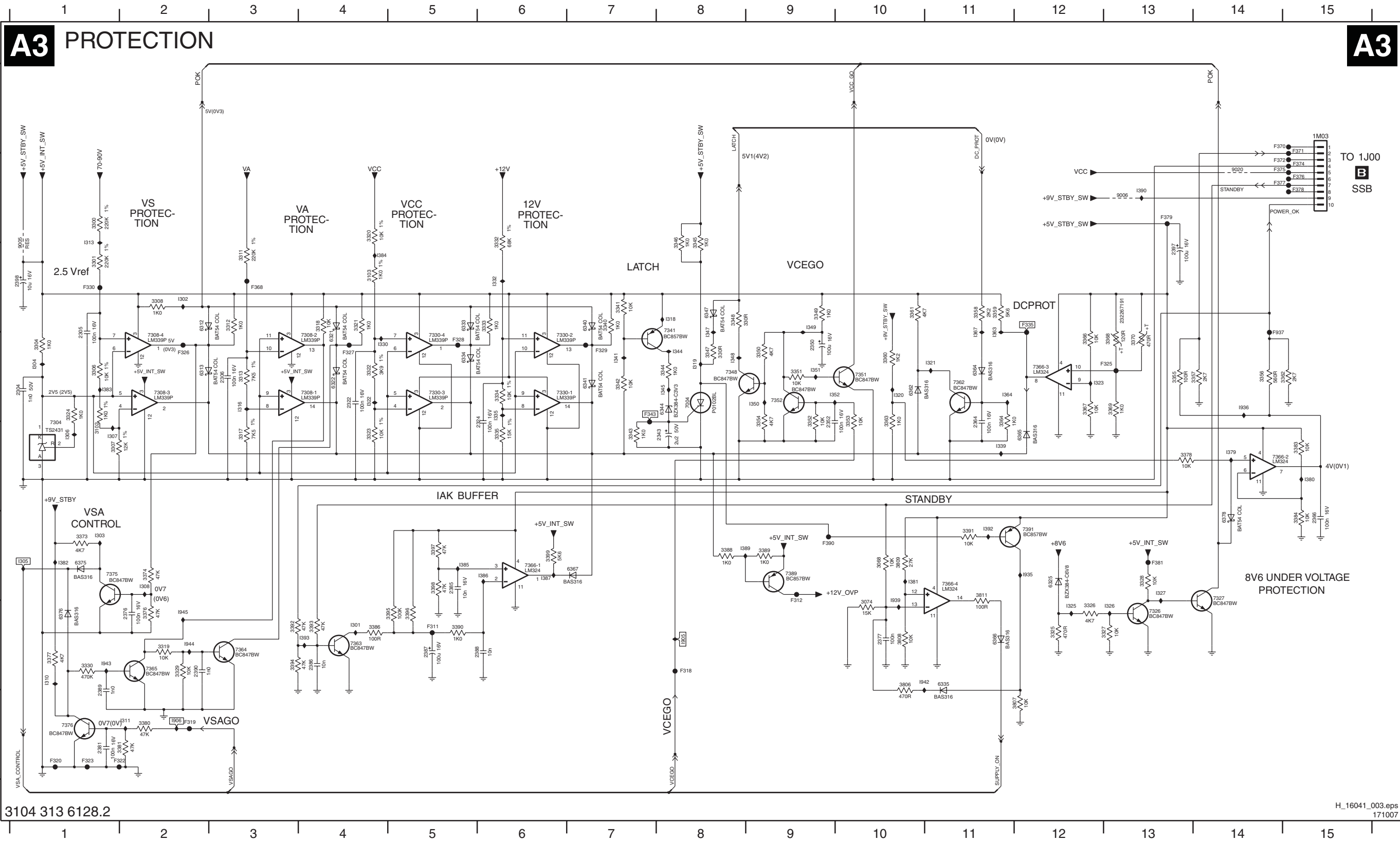


PDP FHP Supply: Filter Standby



PDP FHP Supply: Protection

1M03 A15	2364 E11	2389 H1	3301 C1	3318 C4	3327 G13	3341 C7	3350 D9	3359 C11	3369 D13	3383 E15	3394 G3	3809 F10	6335 G11	6367 F7	7308-4 D2	7351 D10	7366-4 F11	F312 F9	F328 D5	F374 B15	I301 G4	I311 H2	I325 G12	I345 D8	I367 D11	I387 F6	I939 F10
2304 D1	2376 F15	2390 G2	3304 D1	3319 G2	3328 F13	3342 D7	3351 D9	3360 D10	3370 D13	3384 F15	3395 G5	3811 F11	6340 C7	6375 F1	7326 G13	7352 D9	7375 F1	F318 G8	F329 D7	F375 B14	I302 C2	I313 B1	I326 G13	I347 D8	I369 E14	I389 F8	I942 G10
2305 D1	2377 G10	2391 C1	3306 D1	3321 B4	3329 G2	3343 E7	3352 E9	3361 C10	3373 F1	3386 G4	3396 G5	6312 C2	6341 D7	6376 G1	7327 F14	7362 D11	7376 H1	F319 H2	F330 C1	F376 B15	I303 F1	I316 D3	I327 F13	I348 D8	I360 E15	I380 B13	I943 G1
2306 D3	2381 H1	2396 C1	3307 E1	3322 D4	3332 C6	3344 D8	3353 E10	3362 D15	3374 F2	3388 F8	3397 F5	6313 D2	6344 D8	6378 F14	7330-1 D6	7363 G4	7389 F9	F320 H1	F335 C12	F377 B14	I304 D1	I318 C8	I330 D4	I349 C9	I361 F10	I381 F10	I944 G2
2322 D4	2385 F5	2397 C13	3308 C2	3323 E4	3333 C6	3345 C8	3354 E9	3363 E10	3376 G2	3389 F9	3398 F5	6321 D4	6347 C8	6378 F14	7330-2 D6	7364 G3	7391 F12	F322 H2	F343 D7	F378 B15	I305 F1	I319 D8	I332 C6	I350 D9	I362 F1	I382 F1	I945 G2
2324 E6	2386 G4	2398 C1	3309 C3	3324 D1	3334 D6	3346 C8	3355 D13	3364 E11	3377 G1	3390 G5	3399 F6	6322 D4	6348 D10	6378 F14	7330-3 D5	7365 G2	7396 C1	F323 H1	F348 C3	F379 B13	I306 E1	I320 D10	I335 D6	I351 D9	I363 D11	I383 D1	I946 G2
2343 E8	2387 G5	2399 C1	3310 C3	3325 G12	3335 E6	3347 D8	3356 D14	3365 D12	3378 G1	3391 F11	3399 F6	6325 F12	6349 D11	6378 F14	7330-4 D5	7366-1 F6	7396 C1	F324 H2	F349 A14	F379 B13	I307 E1	I321 D11	I336 D6	I352 D9	I364 D11	I384 C4	I947 G2
2345 D9	2388 G6	2399 C1	3311 C3	3326 G12	3336 E6	3348 C8	3357 D14	3366 D12	3379 G1	3392 G3	3399 F6	6326 D5	6350 E11	6378 F14	7330-5 D2	7366-2 E14	7396 C1	F325 D2	F350 F9	F379 B13	I308 F2	I322 D4	I337 D4	I353 D9	I365 F5	I385 F5	I948 G2
2352 E9			3312 E3	3327 G12	3337 C6	3349 C9	3358 C11	3367 D13	3380 H2	3393 G4	3399 F6	6327 D5	6351 G11	6378 F14	7330-6 D2	7366-3 D12	7396 C1	F327 D4	F351 A15	F379 B13	I309 G1	I323 D12	I338 D4	I354 D9	I366 F6	I386 F6	I949 G2



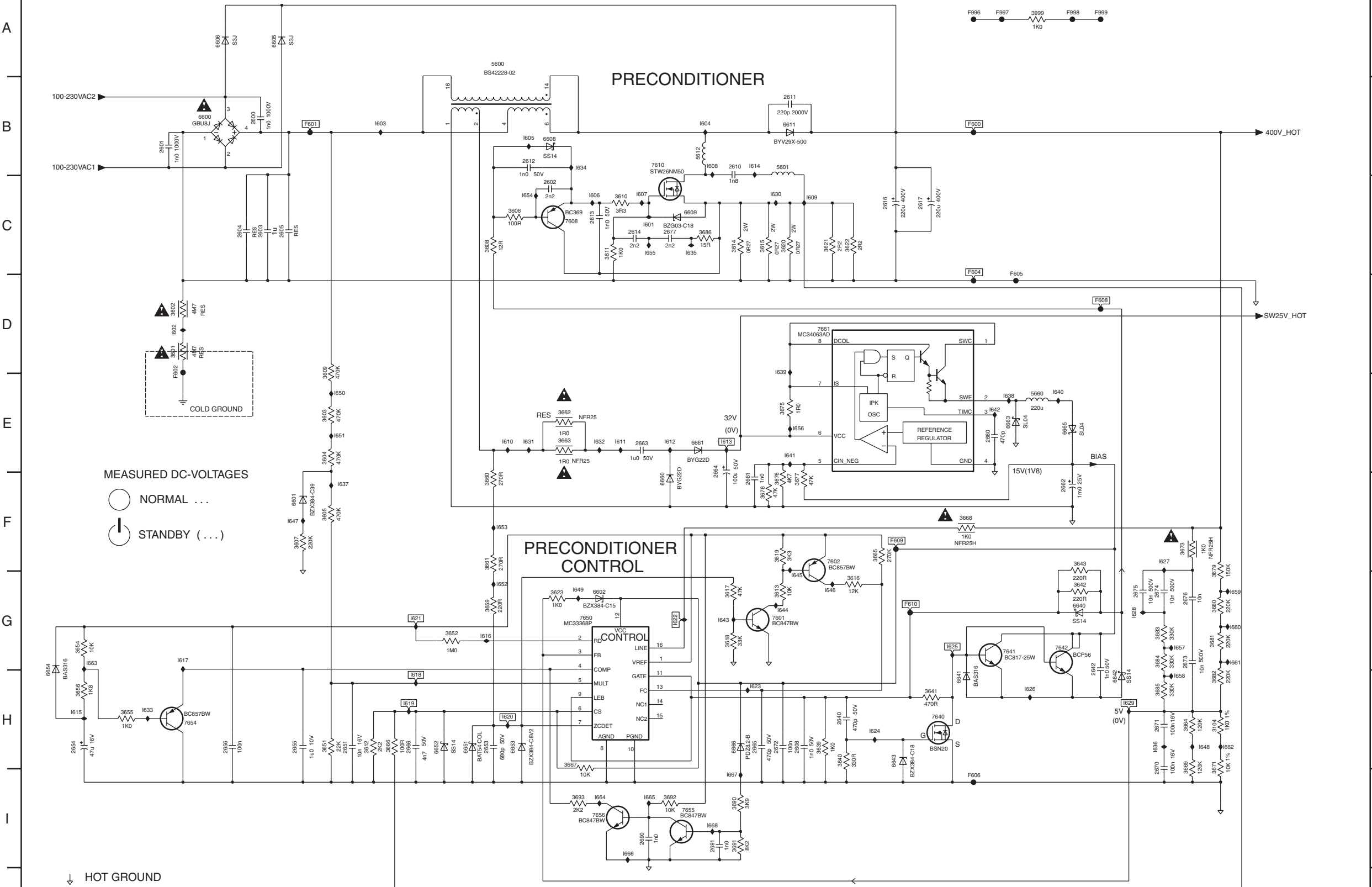
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171007

PDP FHP Supply: Pre Conditioner

A5 PRECONDITIONER

A5



MEASURED DC-VOLTAGES

- NORMAL ...
- ⊖ STANDBY (...)

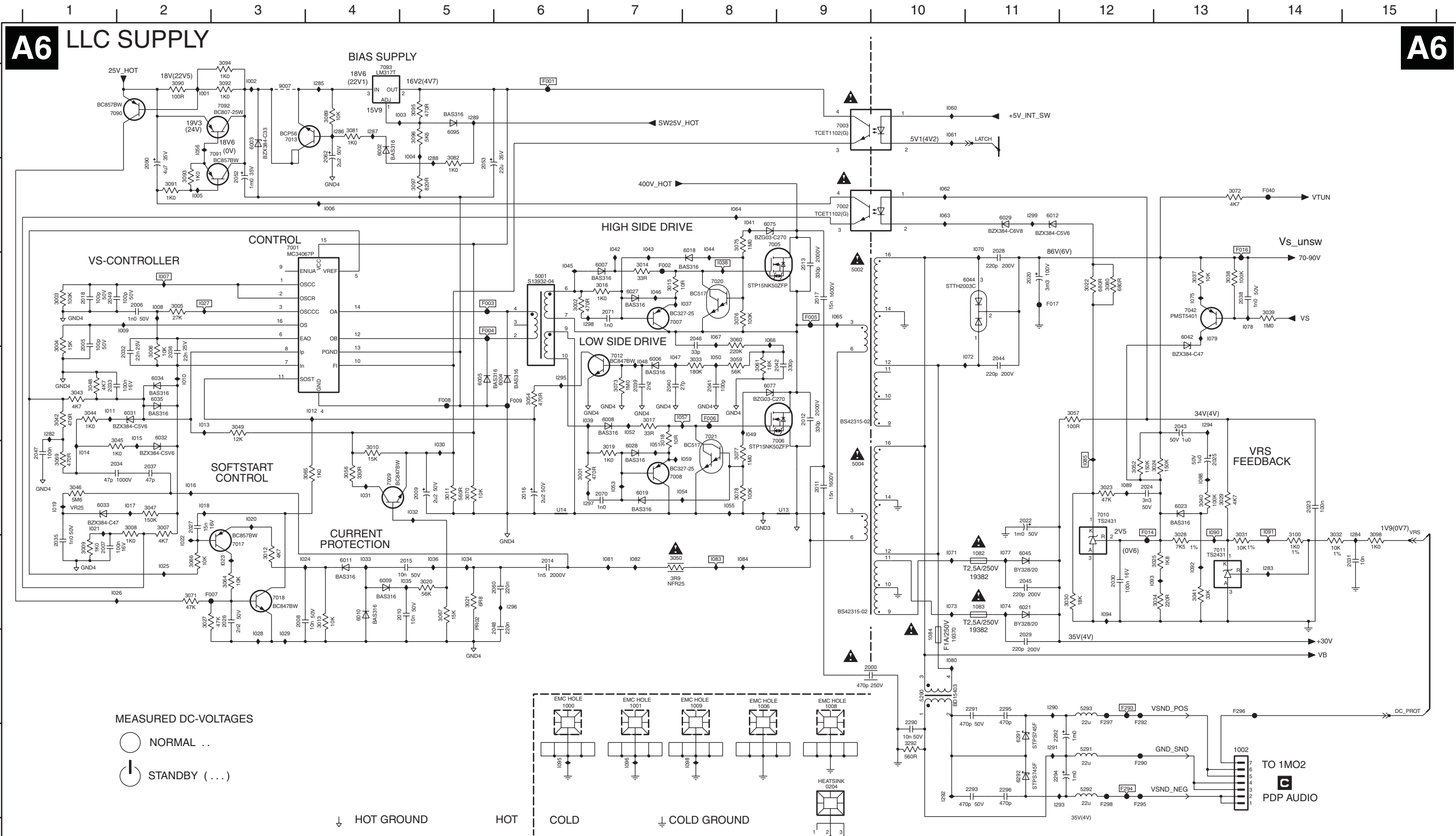
↓ HOT GROUND
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2600 B3	3690 I7	I643 G7
2601 B2	3691 I7	I644 G8
2602 C6	3692 I7	I645 G8
2603 C3	3693 I6	I646 G8
2604 C2	3999 A10	I647 F3
2605 C3	5600 A5	I648 H12
2608 H8	5601 B8	I649 G6
2610 B7	5612 B7	I650 E3
2611 B8	5660 E10	I651 E3
2612 B5	6600 B2	I652 G5
2613 C6	6601 F3	I653 F5
2614 C6	6602 G6	I654 C5
2616 C9	6605 A3	I655 C7
2617 C9	6606 A2	I656 E8
2640 H8	6608 B6	I657 G12
2642 G11	6609 C7	I658 H12
2651 H3	6611 B8	I659 G12
2653 H5	6640 G11	I660 G12
2654 H1	6641 H10	I661 G12
2655 H3	6642 H11	I662 H12
2656 H2	6643 H9	I663 G1
2660 E10	6651 H5	I664 I6
2661 F8	6652 H4	I665 I7
2662 F11	6653 H5	I666 I6
2663 E6	6654 G1	I667 I7
2664 E7	6660 F7	I668 I7
2665 H8	6661 E7	
2666 H4	6663 E10	
2670 H12	6665 E11	
2671 H12	6666 H7	
2672 H8	7601 G8	
2673 G12	7602 F8	
2674 G12	7608 C6	
2675 G11	7610 B7	
2676 G12	7640 H9	
2677 C7	7641 G10	
2690 I6	7642 G11	
2691 I7	7650 G6	
3104 H12	7654 H2	
3601 D2	7655 I7	
3602 D2	7656 I6	
3603 E3	7661 D8	
3604 E3	F600 B10	
3605 F3	F601 B3	
3606 C5	F602 D2	
3607 F3	F604 C10	
3608 C5	F605 D10	
3609 D3	F606 I10	
3610 C6	F608 D11	
3611 C6	F609 F9	
3612 H4	F610 G9	
3613 G8	F996 A10	
3614 C7	F997 A10	
3615 C8	F998 A11	
3616 G9	F999 A11	
3617 G7	I601 C7	
3618 G7	I602 D2	
3619 F8	I603 B4	
3620 C8	I604 B7	
3621 C8	I605 B5	
3622 C9	I606 C6	
3623 G6	I607 C6	
3639 H8	I608 B7	
3640 H8	I609 C8	
3641 H9	I610 E5	
3642 G11	I611 E6	
3643 F11	I612 E7	
3651 H3	I613 E7	
3652 G5	I614 B8	
3654 G1	I615 H1	
3655 H1	I616 G5	
3656 H1	I617 G2	
3659 G5	I618 H4	
3660 F5	I619 H4	
3661 F5	I620 H5	
3662 E6	I621 G4	
3663 E6	I622 G7	
3664 H12	I623 H8	
3665 F9	I624 H9	
3666 H4	I625 G10	
3667 H6	I626 H10	
3668 F10	I627 F12	
3669 H12	I628 G11	
3671 H12	I629 H11	
3673 F12	I630 C8	
3675 E8	I631 E5	
3676 F8	I632 E6	
3677 F8	I633 H1	
3678 H8	I634 B6	
3679 F12	I635 C7	
3680 G12	I636 H12	
3681 G12	I637 F3	
3682 H12	I638 E10	
3683 G12	I639 D8	
3684 G12	I640 E11	
3685 H12	I641 E8	
3686 C7	I642 E10	

PDP FHP Supply: LLC Supply

U13 E9	1083 F11	2012 D9	2024 E12	2034 E1	2044 D11	2070 E7	3001 E6	3011 E5	3021 F5	3032 F14	3044 D1	3057 D12	3071 F2	3089 A4	3100 F14	6003 A3	6018 C8	6034 D2	7001 B3	7012 D7	7093 A4	F009 D6	F296 G13	I008 C2	I018 E2	I028 G3	I038 C8	I049 D8	I060 A10	I072 D11	I083 F8	I095 H6	I289 A5	I299 B11
U14 E6	1084 G10	2013 C9	2025 E13	2035 F1	2045 F11	2071 C7	3002 C6	3012 F3	3022 C12	3033 D8	3045 E2	3059 D8	3072 B13	3090 A2	3292 H10	6004 D6	6019 E7	6035 D2	7002 B9	7013 A3	7097 A3	F014 E12	F297 H12	I009 C2	I019 E1	I029 G3	I039 D6	I050 D8	I061 A10	I073 F10	I084 F8	I096 H7	I290 G11	
0204 H9	2000 G9	2014 F6	2026 F3	2036 D2	2046 C8	2090 B2	3003 C1	3013 F4	3023 E12	3034 F13	3046 E1	3060 C8	3073 D7	3091 B2	5001 C6	6005 D5	6021 F11	6042 C13	7003 A9	7017 F3	F016 B13	F298 H12	I010 D2	I020 E3	I030 E5	I041 B8	I051 E7	I062 B10	I074 F11	I085 E12	I098 H8	I291 H11		
1000 G6	2005 C1	2015 F5	2027 E2	2037 E2	2047 E1	2290 H10	3004 C1	3014 C7	3024 E13	3037 C13	3047 E2	3061 D8	3075 B8	3092 A3	5002 C9	6006 D7	6023 E13	6044 C11	7005 B8	7018 F3	F002 C7	F299 H12	I011 D1	I021 E1	I031 E4	I042 B7	I052 D7	I063 B10	I075 C13	I086 E13	I282 D1	I282 H10		
1001 G7	2006 C2	2016 E6	2028 C11	2038 C13	2048 F6	2291 G11	3005 C2	3015 C7	3025 F13	3038 C13	3048 D1	3064 F3	3076 C8	3093 B2	5004 E9	6007 C7	6027 C7	6045 F11	7006 E8	7020 C8	F003 C5	F040 B14	I002 A3	I012 D4	I022 F2	I032 E5	I043 B7	I053 E7	I064 B8	I077 F11	I089 E12	I283 F14	I293 H11	
1002 H14	2007 F1	2017 C9	2029 G11	2039 D7	2049 C1	2292 H11	3006 D2	3016 C7	3027 F2	3039 C14	3049 D3	3065 E4	3077 E8	3094 A3	5290 G10	6008 D7	6028 E7	6075 B8	7007 C7	7021 D8	F004 C5	F290 H12	I003 A5	I013 D4	I023 F3	I033 F4	I044 B8	I054 E7	I065 C9	I078 C13	I090 E13	I284 E15	I294 D13	
1006 G8	2008 F3	2018 C1	2030 F12	2040 D7	2052 B3	2293 H11	3007 E2	3017 D7	3028 F13	3040 F13	3050 F7	3066 F2	3078 E8	3095 A5	5291 H12	6009 F4	6029 B11	6077 D8	7008 E7	7042 C13	F005 C9	F292 H12	I004 A5	I014 E1	I024 F3	I034 F5	I045 C6	I055 E8	I066 C8	I079 C13	I091 E14	I285 A4	I295 D6	
1008 G9	2009 E5	2020 C11	2031 F15	2041 D8	2053 B5	2294 H11	3008 E2	3018 D7	3029 E13	3041 F13	3052 E12	3067 F5	3080 C12	3096 A5	5292 H12	6010 F4	6031 D2	6095 A5	7009 E4	7090 A2	F006 D8	F293 G12	I005 B2	I015 D2	I025 F2	I035 F5	I046 C7	I056 A2	I067 C8	I080 G10	I092 F13	I286 A4	I296 F6	
1009 G8	2010 F5	2022 E11	2032 D2	2042 D9	2060 F6	2295 G11	3009 F1	3019 E7	3030 F12	3042 D1	3054 D6	3069 E1	3081 A4	3097 B5	5293 G12	6011 F4	6032 D2	6291 H11	7010 E12	7091 A3	F007 F3	F294 H12	I006 B4	I016 E2	I026 F1	I036 F5	I047 D7	I057 D7	I070 B11	I081 F7	I093 F12	I287 A4	I297 E7	
1082 F11	2011 E9	2023 E14	2033 D1	2043 D13	2062 A4	2296 H11	3010 E4	3020 F5	3031 F13	3043 D1	3056 E4	3070 E5	3082 B5	3098 F15	6002 A4	6012 B11	6033 E1	6292 H11	7011 F13	7092 A3	F008 D5	F295 H12	I007 C2	I017 E2	I027 C2	I037 C8	I048 D7	I059 E8	I071 F10	I082 F7	I094 F12	I288 B5	I298 C7	



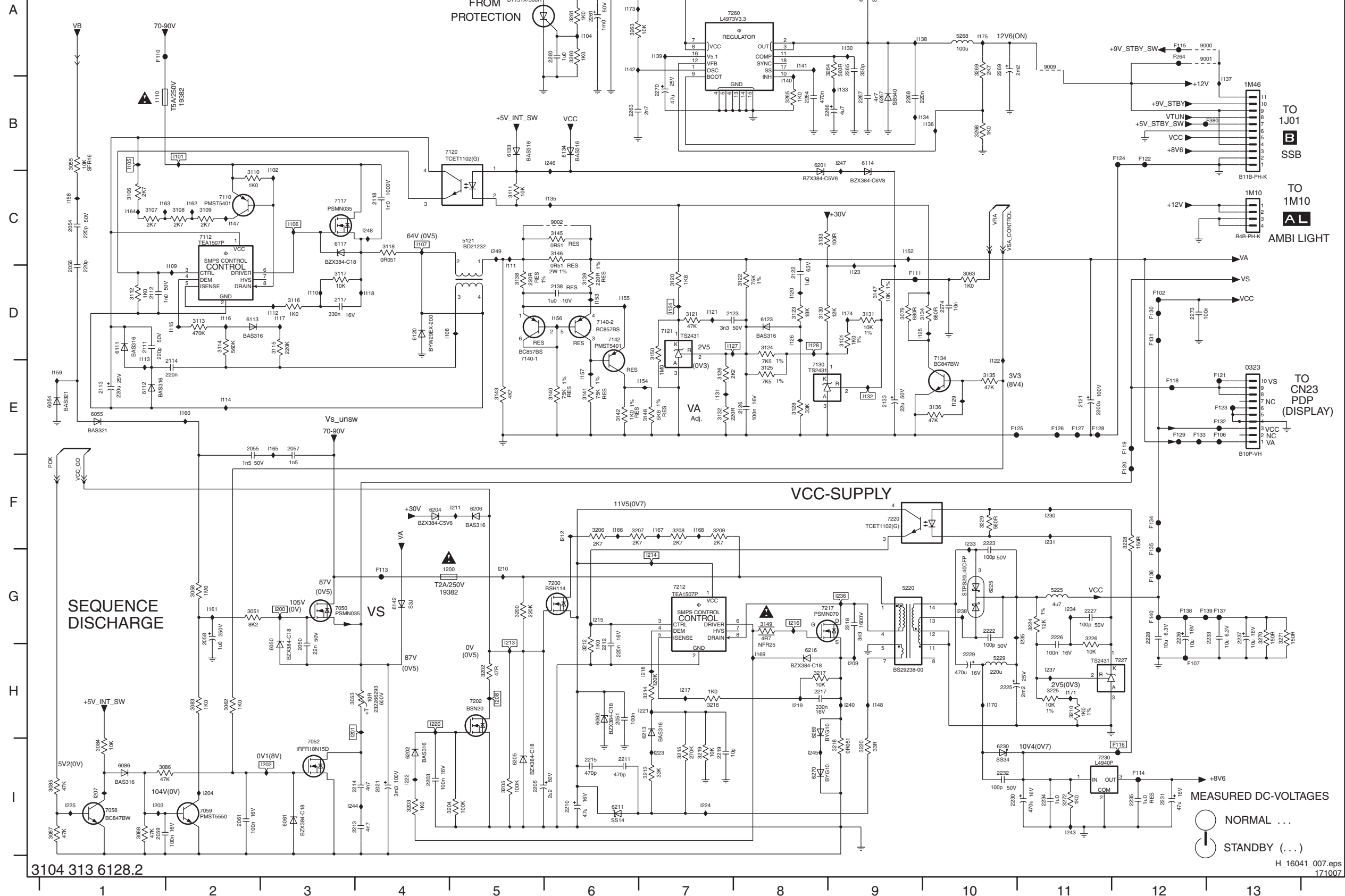
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PDP FHP Supply: AUX Supply

A7 AUX SUPPLY

A7

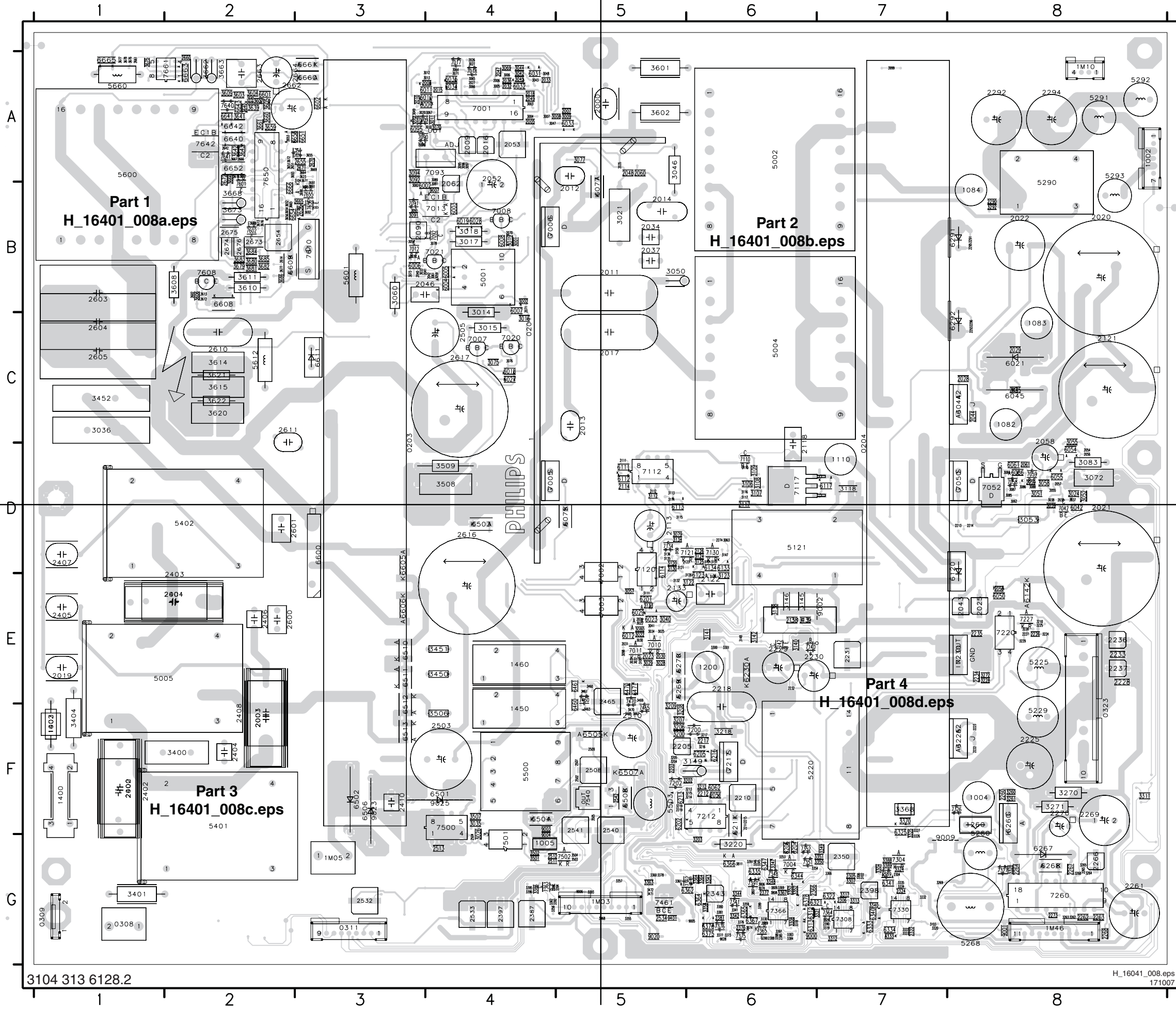


1110 B1	3210 H11	1105 B1
1200 G4	3212 H6	1106 C3
1260 A5	3213 I7	1107 C4
1M10 C13	3214 H7	1108 D4
1M46 B13	3215 I7	1109 D2
2021 I4	3216 H7	1110 D3
2050 H3	3217 H8	1111 D5
2051 H6	3218 I9	1112 D3
2054 C1	3219 I7	1113 D1
2055 E2	3220 I9	1114 E2
2056 D1	3224 G11	1115 D2
2057 E3	3225 H11	1116 D2
2058 G2	3226 G11	1117 D3
2059 I1	3228 F12	1118 D4
2061 I2	3229 F10	1120 D8
2111 D1	3260 A6	1121 D7
2112 D1	3261 A6	1122 E10
2113 E1	3262 A6	1123 D9
2114 E2	3263 A6	1124 D7
2117 D3	3264 A9	1125 D9
2118 C4	3265 B8	1126 D8
2121 E11	3268 B10	1127 D7
2122 D8	3269 A10	1128 D8
2123 D7	3270 G13	1129 E10
2126 E8	3271 G13	1130 A9
2133 E9	3272 I11	1131 E7
2138 D6	5121 C5	1132 E9
2203 I4	5220 G9	1133 B9
2205 I5	5225 G11	1134 B10
2210 I6	5229 H10	1135 C6
2211 I6	5260 A5	1136 B10
2212 H6	5268 A10	1137 B13
2213 I4	6050 H3	1138 A9
2214 I4	6054 E1	1139 A7
2215 I6	6055 E1	1140 B8
2217 H8	6061 I3	1141 A8
2218 G9	6062 H6	1142 A6
2219 I7	6066 I1	1147 C2
2222 G10	6111 D1	1148 H9
2223 F10	6112 E1	1152 C9
2225 H10	6113 D2	1152 D6
2226 G11	6114 B9	1154 E7
2227 G11	6117 C3	1155 D6
2228 G12	6120 D4	1156 D6
2229 H10	6123 D8	1157 E6
2230 I10	6133 B5	1158 C1
2231 I12	6134 B5	1159 E1
2232 I10	6142 G4	1160 E2
2233 G13	6201 B8	1161 G2
2234 I11	6202 I4	1162 C2
2235 I12	6204 F4	1163 C1
2236 G12	6205 I5	1164 C1
2237 G13	6206 F5	1165 E3
2260 A6	6211 I6	1166 F6
2261 A6	6213 H7	1167 F7
2262 A6	6216 H8	1168 F7
2263 B6	6225 G10	1169 H8
2264 B8	6230 I10	1170 H10
2265 A9	6260 A5	1171 H11
2266 B9	6267 B9	1172 A6
2267 B9	6268 A9	1173 A6
2268 B9	6269 H8	1174 D9
2269 A10	6270 I8	1175 A10
2270 B7	7050 G3	1200 G3
2271 D12	7052 I3	1201 I3
2274 D10	7058 I1	1202 I3
3051 G2	7059 I2	1203 I1
3053 H3	7110 C2	1204 I2
3055 B1	7112 C2	1207 I1
3058 G2	7117 C3	1208 H5
3062 H2	7120 B5	1209 H9
3063 D10	7121 D7	1210 G5
3079 D9	7130 E8	1211 F5
3083 H2	7134 E10	1212 F6
3084 I1	7140-1 D5	1213 G5
3085 I1	7140-2 D6	1214 G7
3086 I1	7142 D6	1215 G6
3087 I1	7200 G6	1216 G8
3088 I1	7202 H5	1217 H7
3101 D9	7212 G7	1218 H7
3106 C1	7217 G8	1219 H8
3107 C1	7220 F9	1220 H4
3108 C2	7227 H12	1221 H7
3109 C2	7230 I11	1222 I4
3110 C2	7260 A8	1223 I7
3111 C5	9000 A12	1224 I7
3112 D1	9001 A12	1225 I1
3113 D2	9002 C6	1230 F11
3114 D2	9009 A11	1231 F11
3115 D3	F102 D12	1233 F10
3116 D3	F106 E13	1234 G11
3117 D3	F107 H12	1235 G11
3118 D4	F110 A1	1236 G9
3120 D7	F111 D9	1237 H11
3121 D7	F113 G4	1238 G10
3122 D8	F114 I12	1240 H9
3123 D8	F115 A12	1243 I11
3124 D8	F116 I12	1244 I3
3125 E8	F118 E12	1245 I8
3126 E7	F119 E12	1246 B6
3128 E8	F120 F12	1247 B9
3130 D8	F121 E13	1248 C4
3131 D9	F122 B12	1249 C5
3132 E7	F123 E13	
3133 C8	F124 B12	
3134 D10	F125 E10	
3135 E10	F126 E11	
3136 E10	F127 E11	
3138 D5	F128 E11	
3139 D6	F129 E12	
3140 E6	F130 D12	
3141 E6	F131 D12	
3142 E6	F132 E12	
3143 E5	F133 E12	
3145 C6	F134 F12	
3146 C6	F135 G12	
3147 D9	F136 G12	
3148 E7	F137 G13	
3149 G8	F138 G12	
3150 D7	F139 G12	
3200 G5	F140 G12	
3202 H5	F260 A5	
3203 I4	F264 A12	
3204 I5	F265 A5	
3205 I5	F380 B13	
3206 F6	I101 B2	
3207 F6	I102 B3	
3208 F7	I103 A7	

3104 313 6128.2

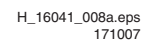
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171007

Layout PDP FHP Supply (Overview Top Side)

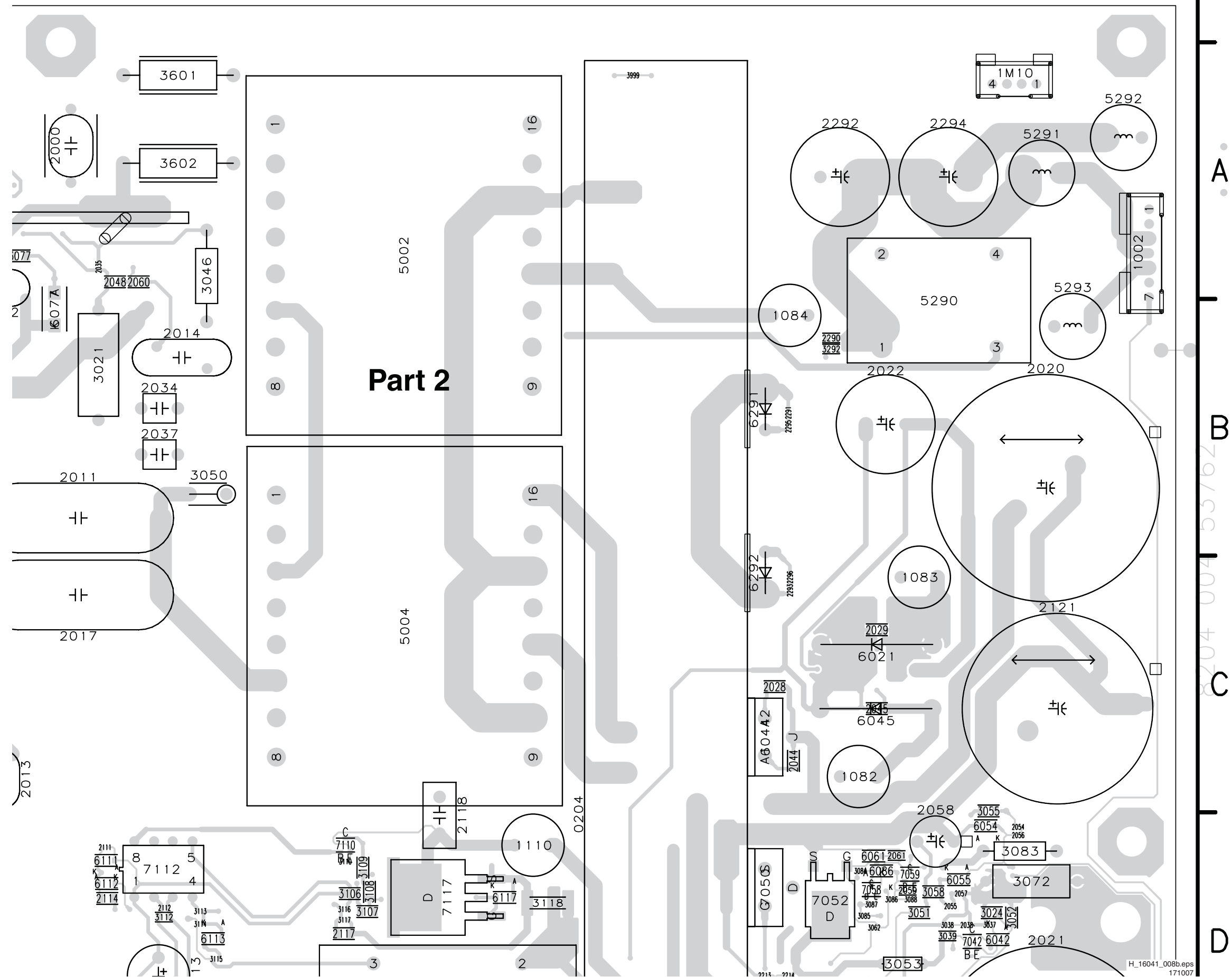


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0203	D6	3452	C8
0204	D2	3506	F5
0308	G8	3508	D5
0309	G8	3509	D5
0311	G6	3601	A4
0323	F1	3602	A4
1002	A1	3608	B7
1003	F8	3610	B7
1004	F1	3611	B7
1082	C1	3614	C7
1083	B1	3615	C7
1084	A1	3620	C7
1110	D2	3621	C7
1200	E3	3622	C7
1260	G1	3662	A7
1400	F8	3663	A7
1402	F8	3668	B7
1450	F5	3673	B7
1460	E5	5001	B5
1M03	G4	5002	A3
1M05	G6	5004	C3
1M10	A1	5005	E7
1M46	G1	5121	D3
2000	A4	5220	F3
2001	F7	5225	E1
2002	F8	5229	F1
2003	F7	5260	G1
2004	E8	5268	G1
2011	B4	5290	B1
2012	A4	5291	A1
2013	C4	5292	A1
2014	B4	5293	B1
2017	C4	5401	F7
2019	E8	5402	D7
2020	B1	5500	F5
2021	D1	5503	F4
2022	B1	5600	B8
2034	B4	5601	B6
2037	B4	5612	C7
2046	B6	5660	A8
2052	A5	6021	C1
2058	D1	6044	C1
2113	D4	6045	C1
2118	D3	6120	D2
2121	C1	6225	F1
2122	E3	6260	F1
2133	E4	6267	G1
2218	E3	6291	B1
2225	F1	6292	C1
2229	E3	6501	F5
2230	E3	6502	F6
2261	G1	6506	F6
2269	F1	6600	D6
2270	F1	6611	C6
2292	A1	7001	A5
2294	A1	7002	D4
2400	F8	7003	E4
2401	E7	7005	D4
2402	F8	7006	B4
2403	E7	7007	C5
2404	F7	7008	B5
2405	E8	7020	C5
2406	E7	7021	B5
2407	D8	7050	D1
2408	E7	7093	A5
2410	F6	7112	D4
2503	F5	7120	D4
2505	C5	7212	F3
2510	F4	7217	F3
2600	E7	7220	E1
2601	D7	7230	E1
2603	B8	7260	G1
2604	C8	7500	G5
2605	C8	7501	G5
2610	C7	7608	B7
2611	D7	7610	B7
2616	D5	7650	A7
2617	C5	9002	E2
2662	A7	9009	G2
2663	A7	9023	F6
2664	A7	9025	F5
3014	B5		
3015	C5		
3017	B5		
3018	B5		
3021	B4		
3036	C8		
3046	A4		
3050	B4		
3053	D1		
3060	B6		
3072	D1		
3083	D1		
3143	E3		
3149	F3		
3220	G3		
3270	F1		
3271	F1		
3368	F2		
3400	F7		
3401	G8		
3404	F8		
3450	E5		

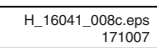
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8

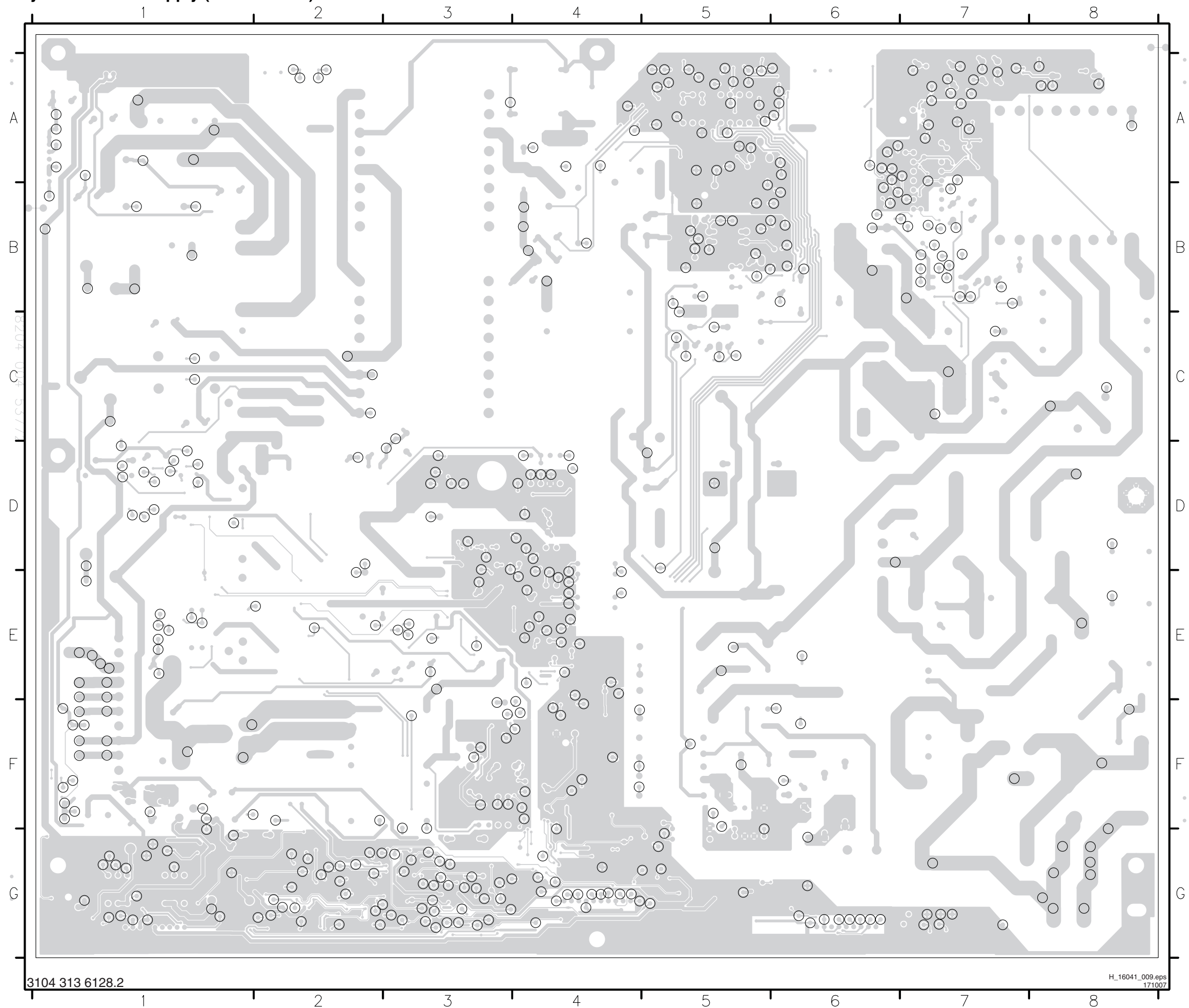


21

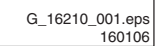


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Layout PDP FHP Supply (Bottom View)

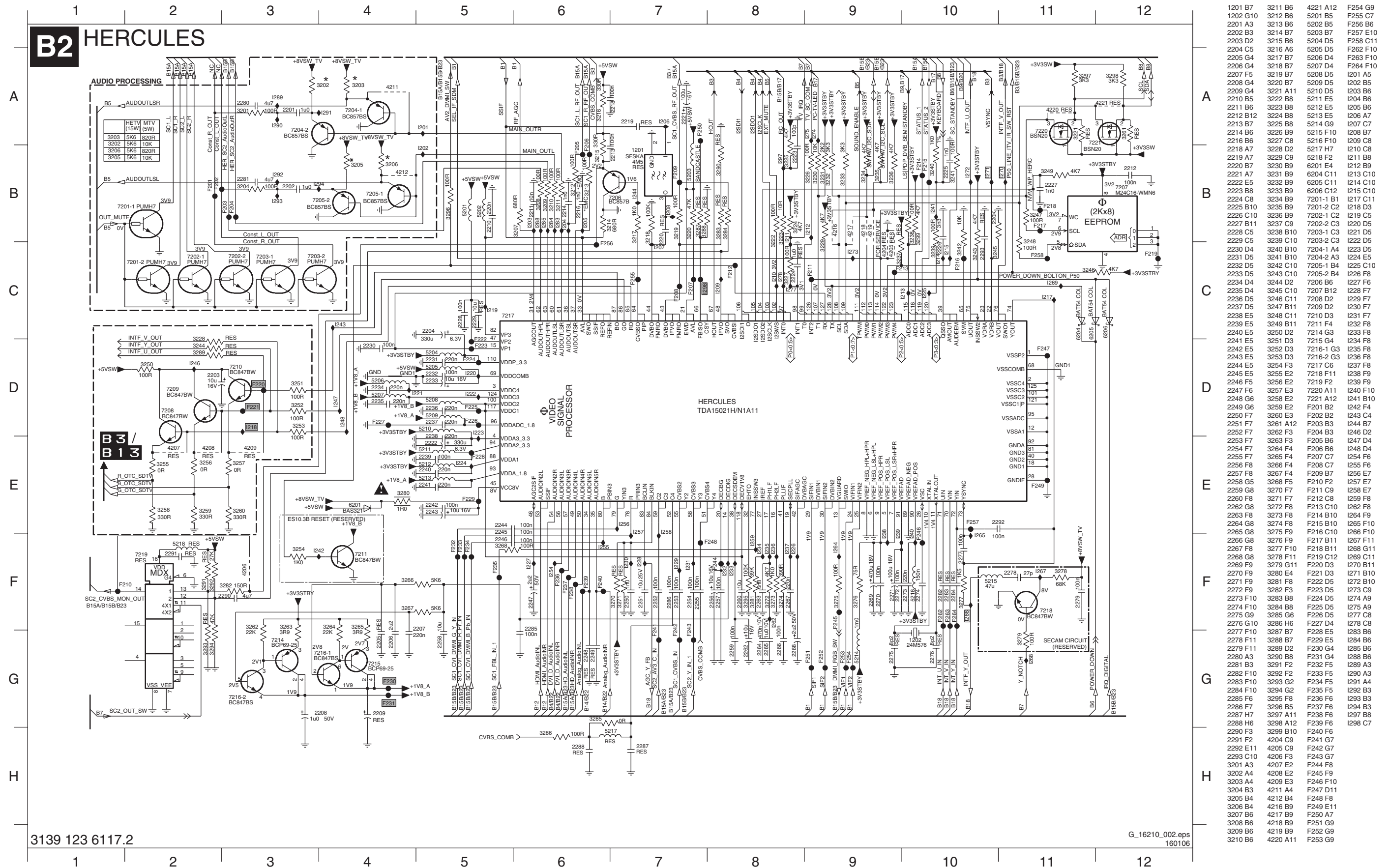


B1 TUNER & IF (EUROPE ONLY)



SSB: Hercules

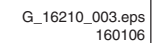
B2 HERCULES



3139 123 6117.2

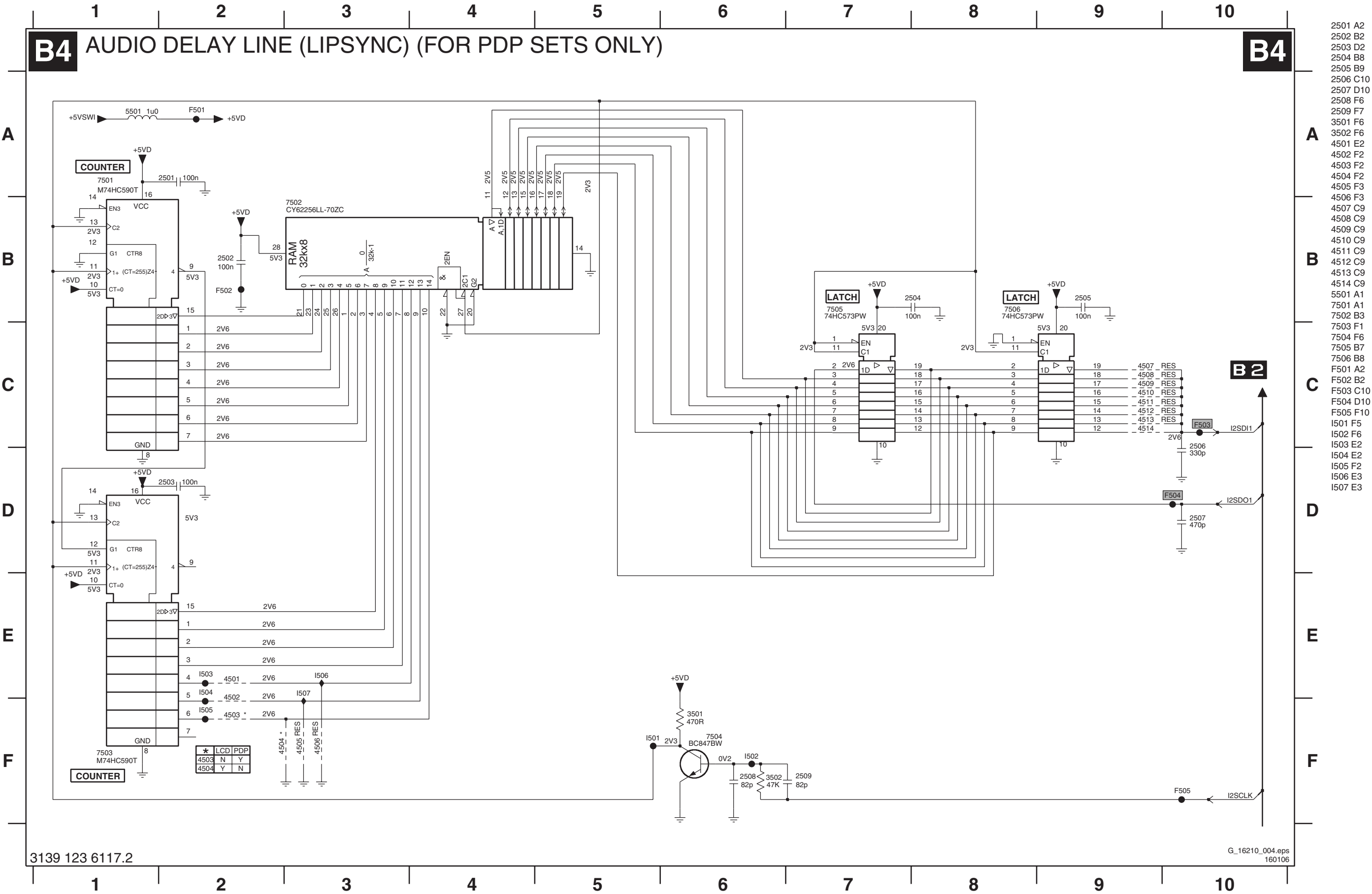
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B3 SYNC INTERFACE

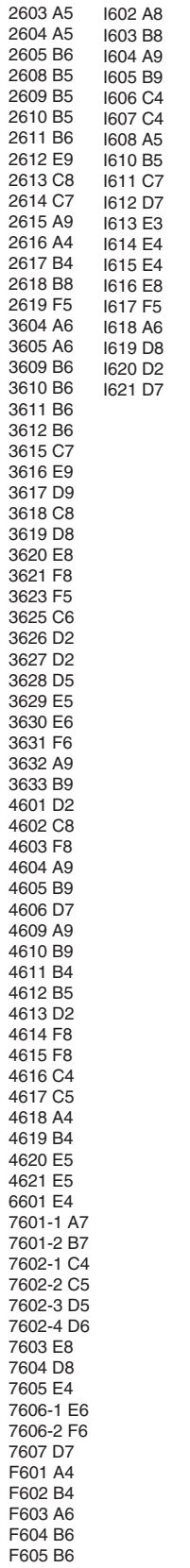


SSB: Audio Delay Line (PDP Only)

B4 AUDIO DELAY LINE (LIPSYNC) (FOR PDP SETS ONLY)



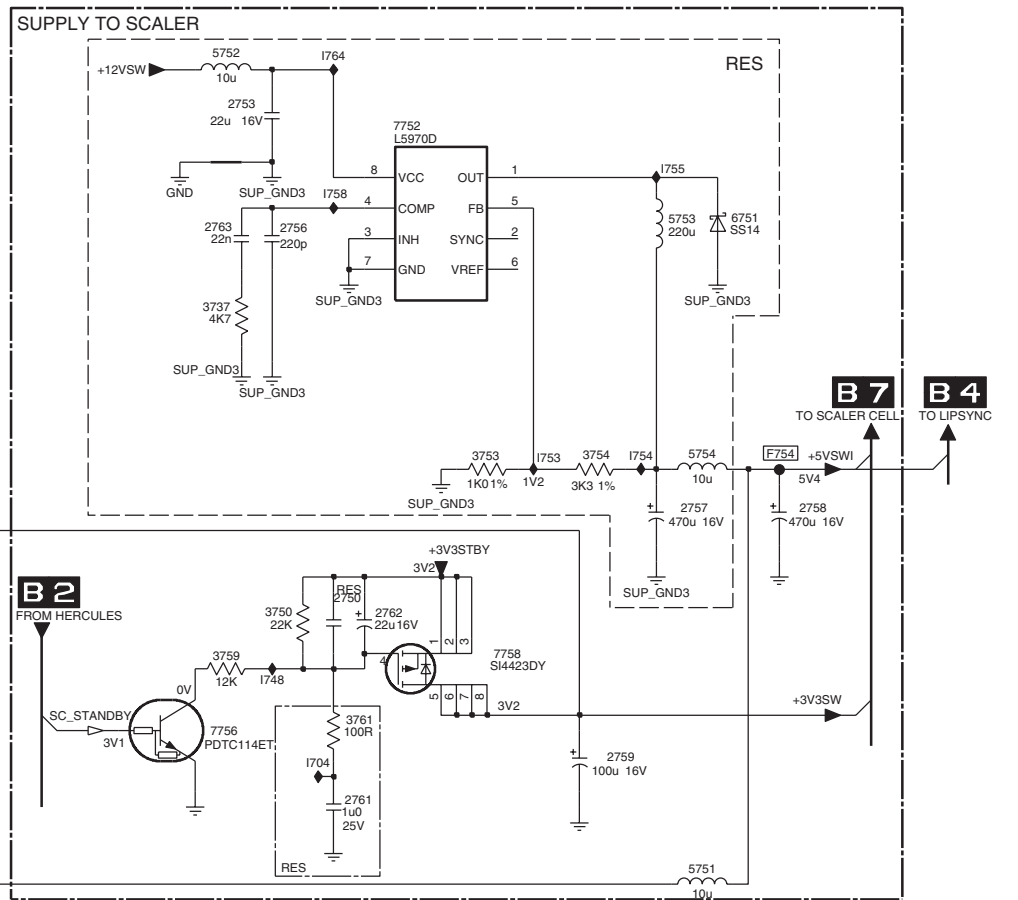
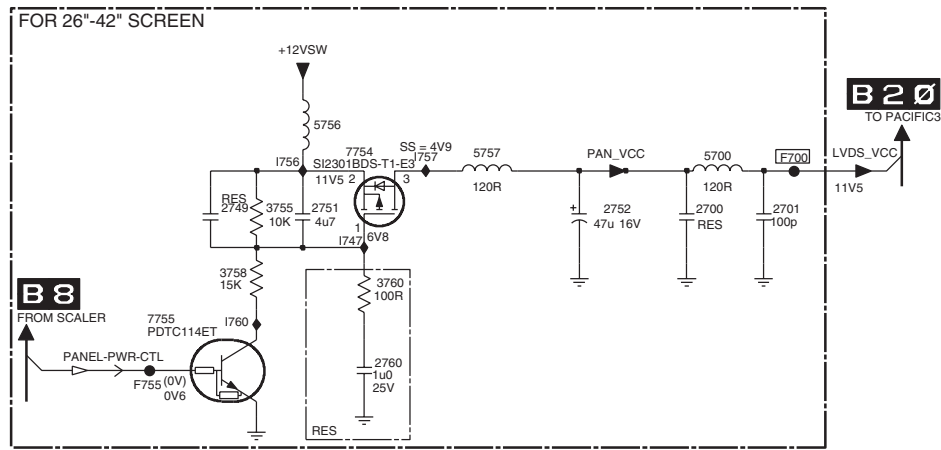
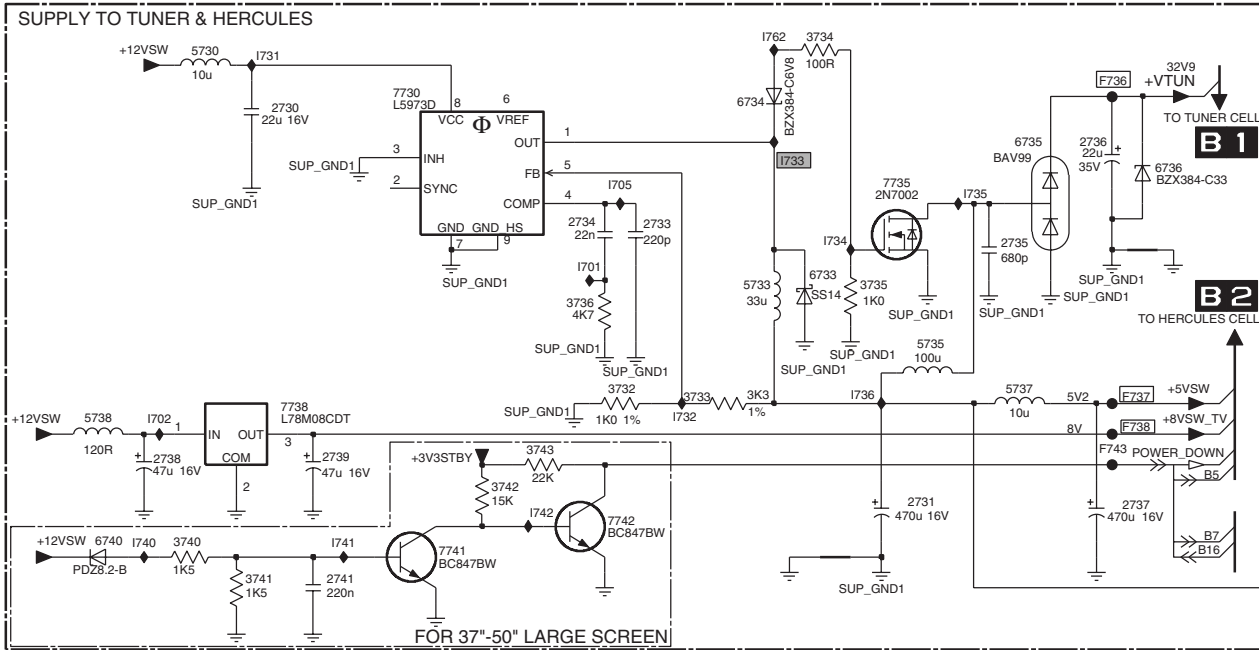
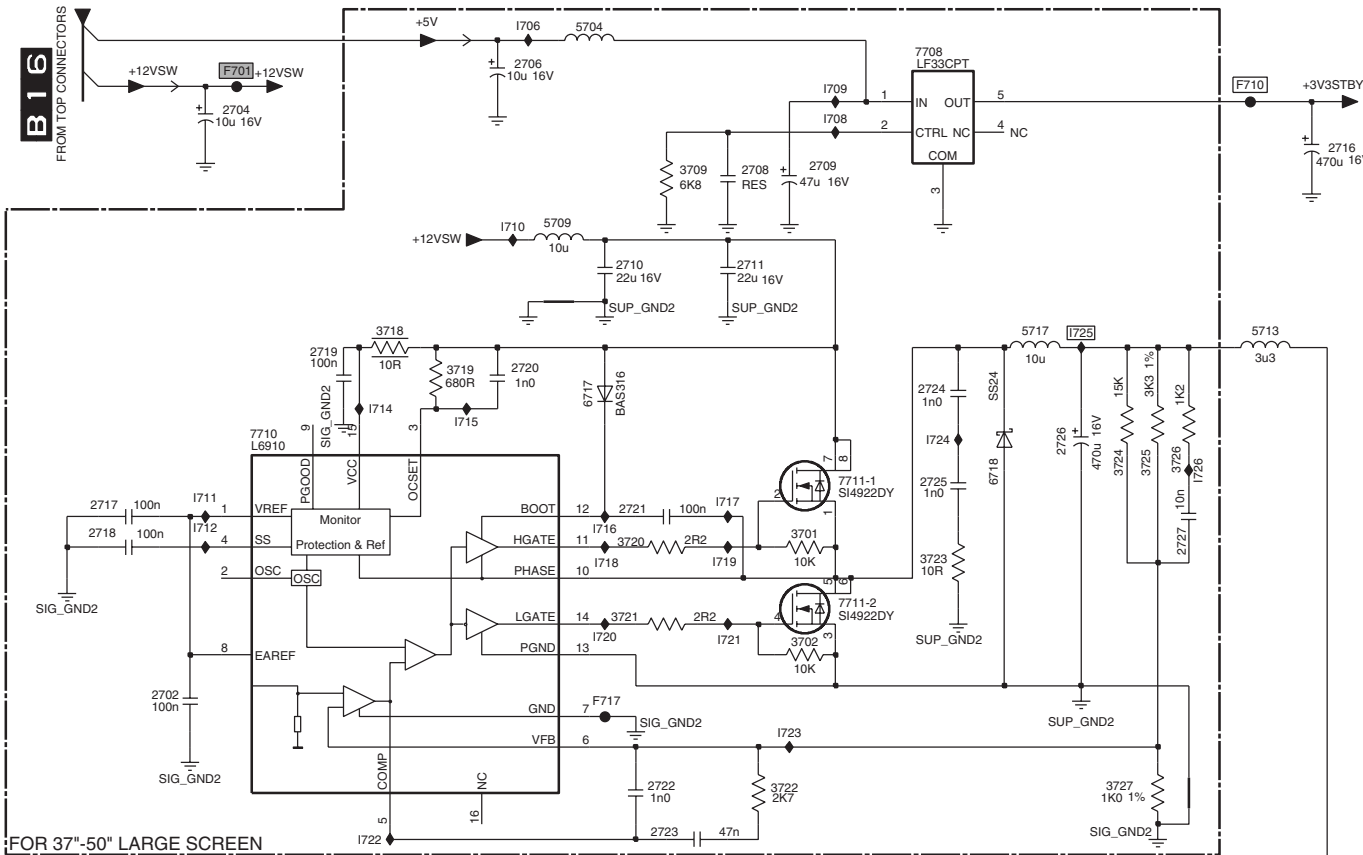
AUDIO PROCESSING



SSB: DC-DC Converter

B6 DC-DC CONVERTER

B6



2700 B11	6736 F6
2701 B11	6740 H1
2702 D1	6751 E10
2704 B2	7708 A5
2706 A3	7710 C2
2708 B4	7711-1 C4
2709 B4	7711-2 D4
2710 B4	7730 F2
2711 B4	7735 F5
2716 B7	7738 G2
2717 D1	7741 H3
2718 D1	7742 H3
2719 C2	7752 D9
2720 C3	7754 B9
2721 D4	7755 C8
2722 E4	7756 G8
2723 E4	7758 G9
2724 C5	7700 B11
2725 C5	7701 B2
2726 C5	7710 B6
2727 D6	7717 D3
2730 F2	7736 F6
2731 H5	7737 G6
2733 F4	7738 G6
2734 F3	7743 G6
2735 F5	7754 F11
2736 F6	7755 C8
2737 H6	7701 F3
2738 G1	7702 G1
2739 G2	7704 G8
2741 H2	7705 F3
2749 B8	7706 A3
2750 F9	7708 B4
2751 B9	7709 B4
2752 B10	7710 B3
2753 D8	7711 D2
2756 E8	7712 D2
2757 F10	7714 C2
2758 F11	7715 C3
2759 G10	7716 D3
2760 C9	7717 D4
2761 G9	7718 D3
2762 G9	7719 D4
2763 E8	7720 D3
3701 D4	7721 D4
3702 D4	7722 E2
3709 B4	7723 E4
3718 C2	7724 C5
3719 C3	7725 C6
3720 D4	7726 C6
3721 D3	7731 E2
3722 E4	7732 G4
3723 D5	7733 F4
3724 C6	7734 F4
3725 C6	7735 F5
3726 C6	7736 G5
3727 E6	7740 H1
3732 G3	7741 H2
3733 G4	7742 H3
3734 E4	7747 B9
3735 G5	7748 G8
3736 G3	7753 F9
3737 E8	7754 F10
3740 H2	7755 D10
3741 H2	7756 B9
3742 H3	7757 B9
3743 G3	7758 E8
3750 G8	7760 C8
3753 F9	7762 E4
3754 F10	7764 D8
3755 B9	
3758 C8	
3759 G8	
3760 C9	
3761 G9	
5700 B11	
5709 B3	
5713 C6	
5717 C5	
5730 E2	
5733 G4	
5735 G5	
5737 G5	
5738 G1	
5751 H10	
5752 D8	
5753 E10	
5754 F10	
5756 B9	
5757 B10	
6717 C3	
6718 C5	
6733 G4	
6734 F4	
6735 F5	

SSB: Diversity Tables B1-B6

B01

Item nr.	EU non DVB	EU DVB	Description
1152	☒	☐	TUN V+U PLL IEC BGHIL B
	☐	☒	TUNER UV1318SD/A CP H N-4
3163	☒	☐	RST SM 0603 100R PM5 COL
3164	☒	☐	RST SM 0603 100R PM5 COL
5152	☒	☒	FXDIND SM 1008 1U PM5 COL R
	☒	☐	FXDIND SM 1008 6U8 PM5 COL R
5157	☐	☒	FXDIND 0603 100MHZ 600R COL R
5158	☐	☒	FXDIND 0603 100MHZ 600R COL R

B02

Item Nr.		/93 China	AP 10pg TXT	EU 10pg TXT	EU 10pg TXT DVB	EU 1000pg TXT	EU 1000pg TXT DVB	Description
2203	319803041090	☒	☐	☐	☐	☐	☐	ELCAP SM 16V 10U PM20 COL R
2244	319803571040	☒	☐	☒	☒	☒	☒	CER2 0402 Y5V 16V 100N COL
2245	319803571040	☐	☐	☒	☒	☒	☒	CER2 0402 Y5V 16V 100N COL
2246	319803571040	☐	☐	☒	☒	☒	☒	CER2 0402 Y5V 16V 100N COL
2280	202055200005	☐	☐	☐	☐	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2281	202055200005	☐	☐	☐	☐	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2289	319802131510	☐	☐	☒	☒	☒	☒	RST SM 0603 150R PM5 COL
2290	222224059872	☐	☐	☐	☐	☒	☒	CER2 0805 Y5V 10V 4U7 P8020 R
2291	319803571040	☐	☐	☒	☒	☒	☒	CER2 0402 Y5V 16V 100N COL
3250	319803101010	☒	☐	☐	☐	☐	☐	RST SM 0402 100R PM5 COL
3251	319803101010	☐	☐	☒	☒	☐	☐	RST SM 0402 100R PM5 COL
3252	319803101010	☒	☐	☐	☐	☐	☐	RST SM 0402 100R PM5 COL
3253	319803101010	☒	☐	☒	☒	☐	☐	RST SM 0402 100R PM5 COL
3255	319803190010	☒	☐	☐	☐	☐	☐	RST SM 0402 JUMP. 0R05 COL
3256	319803190010	☒	☐	☒	☒	☐	☐	RST SM 0402 JUMP. 0R05 COL
3257	319803190010	☒	☐	☐	☐	☐	☐	RST SM 0402 JUMP. 0R05 COL
3258	319803101020	☒	☐	☐	☐	☐	☐	RST SM 0402 1K PM5 COL
3259	319803101020	☒	☐	☐	☐	☐	☐	RST SM 0402 1K PM5 COL
3260	319803101020	☒	☐	☒	☒	☐	☐	RST SM 0402 1K PM5 COL
3282	319802131510	☐	☐	☒	☒	☐	☐	RST SM 0603 150R PM5 COL
3294	319803104730	☐	☐	☒	☒	☒	☒	RST SM 0402 47K PM5 COL
3296	319803101010	☐	☐	☐	☐	☒	☒	RST SM 0402 100R PM5 COL
4206	319802190020	☐	☐	☐	☐	☐	☐	RST SM 0805 JUMP. 0R05 COL R
4218	319803190010	☐	☐	☒	☒	☐	☐	RST SM 0402 JUMP. 0R05 COL
4219	319803190010	☐	☐	☒	☒	☐	☐	RST SM 0402 JUMP. 0R05 COL
5218	242254945333	☐	☐	☒	☒	☒	☒	IND FXD 1206 EMI 100MHZ 120R R
6206	319801010660	☐	☐	☐	☐	☐	☐	DIO SIG SM BAT54 SOD323 COL R
7208	319801042310	☒	☐	☐	☐	☐	☐	TRA SIG SM BC847BW (COL) R
7209	319801042310	☒	☐	☒	☒	☐	☐	TRA SIG SM BC847BW (COL) R
7210	319801042310	☒	☐	☒	☒	☐	☐	TRA SIG SM BC847BW (COL) R
7217	935280215557	☐	☐	☒	☒	☐	☐	IC SM TDA15031H/N1C91 (PHSE)Y
	935280366557	☐	☐	☐	☐	☒	☒	IC SM TDA15021H/N1C91 (PHSE) Y
	935280367557	☒	☐	☐	☐	☐	☐	IC SM TDA15011H/N1CD0 (PHSE) Y
7219	319801071090	☐	☐	☒	☒	☒	☒	IC SM 74HC4053D (COL) R

B03

Item Nr.		10pg TXT (w/o OTC)	1000pg TXT (with OTC)	DVB 10pg TXT (w/o OTC)	DVB 1000pg TXT (with OTC)	Description
1442	242202519085	☐	☒	☐	☒	CON V 14P M 1.00 SM SR R
3432	319803102720	☐	☐	☒	☒	RST SM 0402 2K7 PM5 COL
6430	934054842115	☒	☒	☐	☐	DIO REG SM PDZ2.4B (PHSE) R
6431	932220595685	☒	☒	☐	☐	DIO SIG SM 1N4148WS-V (VISH) R

B05

Item Nr.		LCD 37" - 50"	LCD 26" - 32"	PDP 42" - 50"	Decription
2612	319801741050	☒	☐	☒	CER2 0603 Y5V 10V 1U COL
2613	319801741050	☐	☐	☐	CER2 0603 Y5V 10V 1U COL
2616	202055200035	☐	☒	☐	CER2 0603 X5R 6V3 2U2 PM10 R
2617	202055200035	☐	☒	☐	CER2 0603 X5R 6V3 2U2 PM10 R
2619	319803024790	☐	☐	☐	ELCAP SM 6V3 47U PM20 COL R
3615	319803101030	☐	☒	☐	RST SM 0402 10K PM5 COL
3616	319803101020	☒	☐	☐	RST SM 0402 1K PM5 COL
	319803190010	☐	☐	☒	RST SM 0402 JUMP. 0R05 COL
3617	319803101020	☒	☐	☒	RST SM 0402 1K PM5 COL
3618	319803102230	☐	☒	☐	RST SM 0402 22K PM5 COL
3619	319803101030	☐	☐	☐	RST SM 0402 10K PM5 COL
3620	319803101030	☒	☐	☐	RST SM 0402 10K PM5 COL
3623	319803104730	☐	☐	☐	RST SM 0402 47K PM5 COL
3625	319803103320	☐	☒	☐	RST SM 0402 3K3 PM5 COL
3627	319803102230	☐	☐	☐	RST SM 0402 22K PM5 COL
3628	319803101030	☒	☐	☒	RST SM 0402 10K PM5 COL
3629	319803102230	☐	☐	☐	RST SM 0402 22K PM5 COL
3630	319803102220	☒	☐	☒	RST SM 0402 2K2 PM5 COL
	319803103310	☐	☐	☐	RST SM 0402 330R PM5 COL
3631	319803102220	☒	☐	☒	RST SM 0402 2K2 PM5 COL
	319803103310	☐	☐	☐	RST SM 0402 330R PM5 COL
3632	232270570569	☒	☐	☒	RST SM 0402 RC31 56R PM5 R
3633	232270570569	☒	☐	☒	RST SM 0402 RC31 56R PM5 R
4601	319802190030	☒	☐	☒	RST SM 0603 JUMP. 0R05 COL
4602	319802190030	☐	☐	☐	RST SM 0603 JUMP. 0R05 COL
4603	319802190030	☐	☒	☐	RST SM 0603 JUMP. 0R05 COL
4606	319802190030	☐	☐	☐	RST SM 0603 JUMP. 0R05 COL
4609	319802190030	☐	☒	☐	RST SM 0603 JUMP. 0R05 COL
4610	319802190030	☐	☐	☐	RST SM 0603 JUMP. 0R05 COL
4611	319802190030	☐	☒	☐	RST SM 0603 JUMP. 0R05 COL
4612	319802190030	☐	☐	☐	RST SM 0603 JUMP. 0R05 COL
4613	319802190030	☐	☒	☐	RST SM 0603 JUMP. 0R05 COL
4614	319802190030	☒	☐	☐	RST SM 0603 JUMP. 0R05 COL
4615	319802190030	☒	☐	☒	RST SM 0603 JUMP. 0R05 COL
4618	319802190030	☒	☐	☒	RST SM 0603 JUMP. 0R05 COL
4619	319802190030	☐	☐	☐	RST SM 0603 JUMP. 0R05 COL
7603	319801042310	☒	☐	☐	TRA SIG SM BC847BW (COL) R
7604	319801042310	☒	☐	☒	TRA SIG SM BC847BW (COL) R
7607	319801042310	☐	☒	☐	TRA SIG SM BC847BW (COL) R

B06

Item Nr.		PDP - 42" - 50"	LCD 26" - 32"	LCD 37" - 42"	Description
2701	319803401010	☐	☒	☒	CER1 0402 NP0 50V 100P COL
2702	319803571040	☒	☐	☒	CER2 0402 Y5V 16V 100N COL
2706	319803041090	☒	☐	☒	ELCAP SM 16V 10U PM20 COL R
2709	319803044790	☒	☐	☒	ELCAP SM 16V 47U PM20 COL R
2710	202055200211	☒	☐	☒	CER2 1210 X5R 16V 22U PM10 R
2711	202055200211	☒	☐	☒	CER2 1210 X5R 16V 22U PM10 R
2717	319803571040	☒	☐	☒	CER2 0402 Y5V 16V 100N COL
2718	319803571040	☒	☐	☒	CER2 0402 Y5V 16V 100N COL
2719	319803571040	☒	☐	☒	CER2 0402 Y5V 16V 100N COL
2720	319803501020	☒	☐	☒	CER2 0402 X7R 50V 1N COL
2721	319803571040	☐	☐	☐	CER2 0402 Y5V 16V 100N COL
2722	319803501020	☒	☐	☒	CER2 0402 X7R 50V 1N COL
2723	319803574730	☒	☐	☒	CER2 0402 Y5V 16V 47N COL
2724	319801631020	☒	☐	☒	CER1 0603 NP0 25V 1N COL
2725	319801631020	☐	☐	☐	CER1 0603 NP0 25V 1N COL
2726	202002100097	☒	☐	☒	ELCAP SM SGV 16V 470U PM20 R
2727	319803521030	☒	☐	☒	CER2 0402 X7R 16V 10N COL
2741	319801732240	☒	☐	☐	CER2 0603 X7R 10V 220N COL
	222224059872	☐	☒	☒	CER2 0805 Y5V 10V 4U7 P8020 R
2752	319803044790	☐	☒	☒	ELCAP SM 16V 47U PM20 COL R
3701	319803101030	☒	☐	☒	RST SM 0402 10K PM5 COL
3702	319803101030	☒	☐	☒	RST SM 0402 10K PM5 COL
3709	319803106820	☒	☐	☐	RST SM 0402 6K8 PM5 COL
3718	232275061009	☒	☐	☒	RST SM FUSE 1206 10R PM5 R
3719	319803106810	☒	☐	☒	RST SM 0402 680R PM5 COL
3720	319802132280	☒	☐	☒	RST SM 0603 2R2 PM5 COL
3721	319802132280	☒	☐	☐	RST SM 0603 2R2 PM5 COL
3722	319803102720	☒	☐	☒	RST SM 0402 2K7 PM5 COL
3723	319802151090	☒	☐	☒	RST SM 0805 10R PM5 COL R
3724	319803101530	☐	☐	☒	RST SM 0402 15K PM5 COL
3725	232270463302	☒	☐	☒	RST SM 0603 RC22H 3K3 PM1 R
3726	319803101220	☒	☐	☒	RST SM 0402 1K2 PM5 COL
3727	232270461002	☒	☐	☒	RST SM 0603 RC22H 1K PM1 R
3740	319803101520	☒	☐	☒	RST SM 0402 1K5 PM5 COL
3741	319803101520	☐	☐	☒	RST SM 0402 1K5 PM5 COL
3742	319803101530	☒	☐	☒	RST SM 0402 15K PM5 COL
3743	319803102230	☒	☐	☒	RST SM 0402 22K PM5 COL
3750	319803102230	☐	☒	☐	RST SM 0402 22K PM5 COL
3755	319803101030	☐	☒	☐	RST SM 0402 10K PM5 COL
3758	319803101530	☐	☒	☒	RST SM 0402 15K PM5 COL
3759	319803101230	☐	☒	☐	RST SM 0402 12K PM5 COL
5700	242254945333	☐	☒	☒	IND FXD 1206 EMI 100MHZ 120R R
5704	242254945333	☐	☒	☒	IND FXD 1206 EMI 100MHZ 120R R
5709	242253594134	☒	☐	☒	IND FXD SM 7032 10U PM20 R
5713	242253601218	☒	☐	☒	IND FXD SM DRH104RNP 3U3 PM30
5717	242253600671	☒	☐	☒	IND FXD SM 12575 10U PM20 R
5754	242253594134	☐	☐	☐	IND FXD SM 7032 10U PM20 R
5756	242254945333	☐	☒	☒	IND FXD

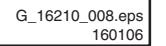
B7 SCALER



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160106

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2804 A2	F803 B15
2805 A2	F804 G15
2807 A3	I801 B13
2808 A3	I802 F10
2809 A3	I803 F10
2810 A3	I804 E15
2811 A4	I805 F13
2812 A4	I806 F13
2813 C13	I807 F13
2814 C13	I808 F13
2815 A10	I809 G13
2816 A10	I810 H13
2817 A10	I811 G11
2818 A10	I812 G3
2819 A10	I813 A1
2820 A12	I815 G3
2821 A13	I816 G3
2822 A13	I817 H6
2823 B10	I818 G3
2824 B10	I819 I10
3800 B3	I820 I10
3801-1 C2	I822 H13
3801-2 C2	I823 G6
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3801-4 C2	
3802-1 D2	
3802-2 D2	
3802-3 D2	
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3808-1 F2	
3808-2 E2	
3808-3 F2	
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3809-1 F7	
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3809-3 B7	
3810-1 C7	
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3816 E7	
3817 E6	
3818 E6	
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3820 G2	
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3825-3 F10	
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3826-2 F10	
3826-3 F10	
3827 F13	
3828 F13	
3829 F13	
3830 G10	
3831 I9	
3832 I9	
3834 G13	
3835 H13	
3836 H13	
3837 G14	
3838 G14	
3839 G3	
3840 I3	
3841 H15	
3842 G10	
4801 H6	
7801-1 A11	
7801-12 B4	
7801-4 C12	

B8 SCALER



SSB: Scaler Interface

B9 SCALER INTERFACE

B9

A

B

C

D

E

F

A

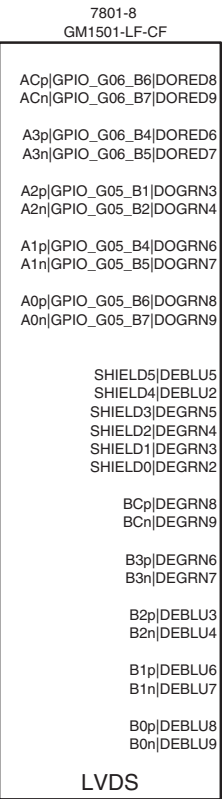
B

C

D

E

F



B 2 0

B 7

B 2 0

B 1 6

B 2 0

B 2

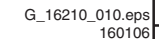
FOR PDP ONLY

FOR LARGE SCREEN 37"~50"

FOR PDP DVB ONLY

	5V DC	5V PWM	3V3 DC	3V3 PWM
3A03	390R	390R	-	-
3A05	-	-	-	-
3A04	1K	1K	-	-
7A01	Y	Y	-	-
4A03	-	-	Y	Y
3A06	10K	0R	10K	0R
2A03	1u	-	1u	-

B10 SDRAM



SSB: Flash / Control

B11 FLASH / CONTROL

B11

- 1C00 E4
- 2C00 A3
- 2C01 B3
- 2C02 E2
- 2C03 E4
- 2C04 D1
- 2C05 D1
- 3C00 E2
- 3C01 F4
- 3C02 E6
- 3C03 F6
- 3C04-1 B6
- 3C04-2 B6
- 3C04-3 B6
- 3C04-4 B6
- 3C05 B6
- 3C06-1 B5
- 3C06-2 B5
- 3C06-3 B5
- 3C06-4 B5
- 3C07-1 C5
- 3C07-2 C5
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- 3C10-3 D5
- 3C10-4 D5
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- 3C16-2 C7
- 3C16-3 C6
- 3C16-4 C6
- 3C17 C6
- 3C18 C7
- 3C19 D6
- 3C20 D7
- 3C21 D7
- 3C22 D1
- 3C23 D1
- 5C00 A2
- 7C01 E3
- 7C02 E5
- 7C03 B2
- FC00 A2
- FC01 E2
- FC02 F2
- FC03 F2
- FC04 F4
- FC05 F5
- FC06 D6
- FC07 D6
- FC08 C7
- FC09 C7
- FC10 C7
- FC11 D1

A

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B 7

TO SCALER

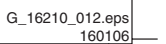
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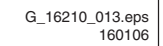
B 7 & B 19

TO SCALER TO COLUMBUS

2D00 A10	2D10 B2
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2D02 F2	2D12 B1
2D08 B1	2D13 B1
2D09 B1	2D14 B2

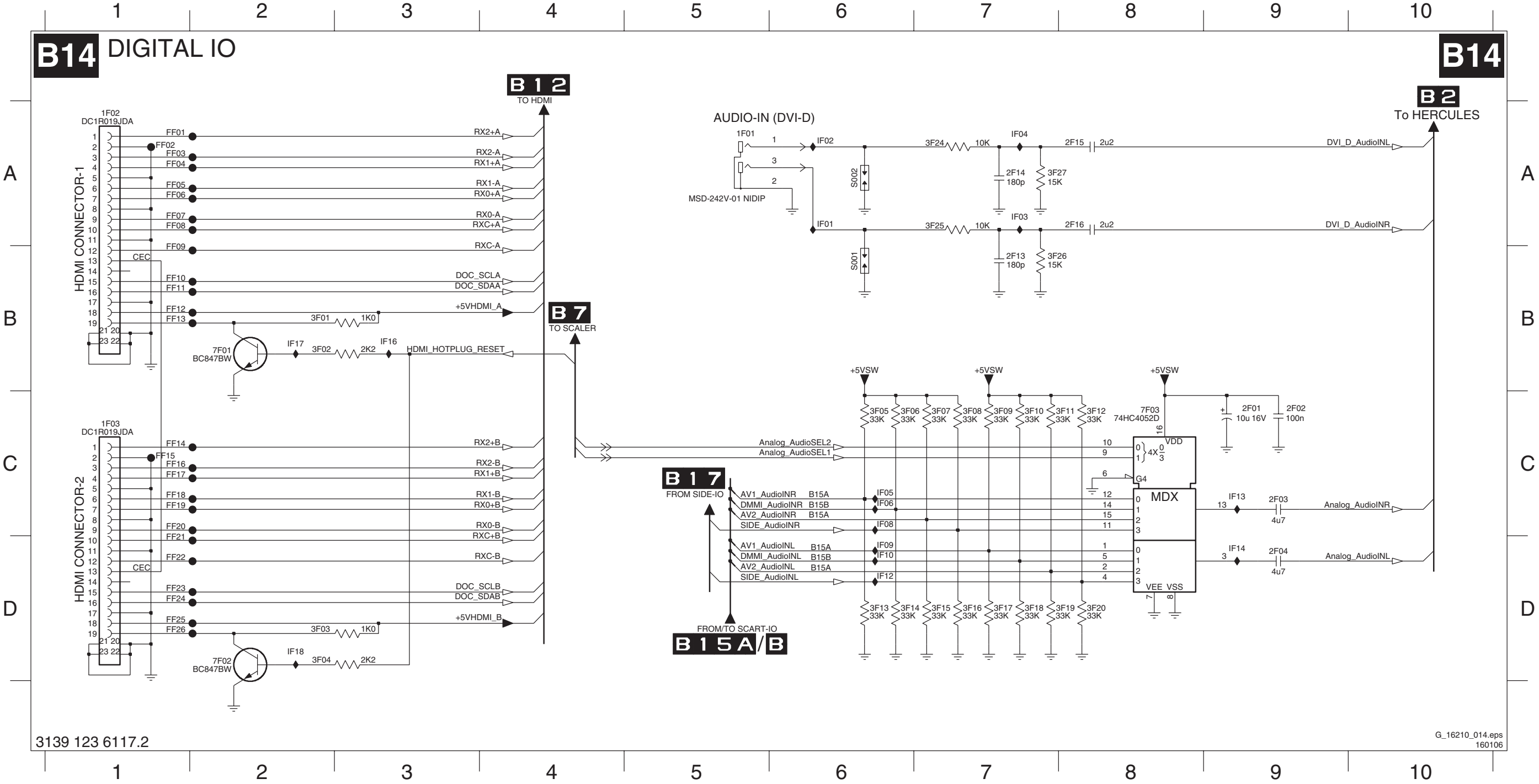


B13 MUX-SYNC INTERFACE



SSB: Digital I/O

1F01 A5	2F01 C9	2F04 D9	2F15 A8	3F02 B2	3F05 C6	3F08 C7	3F11 C8	3F14 D6	3F17 D7	3F20 D8	3F26 A7	7F02 D2	FF02 A1	FF05 A1	FF08 A1	FF11 B1	FF14 C1	FF17 C1	FF20 C1	FF23 D1	FF26 D1	IF03 A7	IF06 C6	IF10 D6	IF14 D9	IF18 D2
1F02 A1	2F02 C9	2F13 A7	2F16 A8	3F03 D2	3F06 C6	3F09 C7	3F12 C8	3F15 D7	3F18 D7	3F24 A7	3F27 A7	7F03 C8	FF03 A1	FF06 A1	FF09 B1	FF12 B1	FF15 C1	FF18 C1	FF21 D1	FF24 D1	IF01 A6	IF04 A7	IF08 C6	IF12 D6	IF16 B3	S001 A6
1F03 C1	2F03 C9	2F14 A7	3F01 B2	3F04 D2	3F07 C7	3F10 C7	3F13 D6	3F16 D7	3F19 D8	3F25 A7	7F01 B2	FF01 A1	FF04 A1	FF07 A1	FF10 B1	FF13 B1	FF16 C1	FF19 C1	FF22 D1	FF25 D1	IF02 A6	IF05 C6	IF09 D6	IF13 C9	IF17 B2	S002 B6



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B15A SCART ANALOG-IO



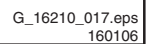
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1002-2 K3	F005 K3
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1003-1 A3	F008 C2
1003-2 B3	F009 B3
2003 A4	F011 D3
2004 B4	F012 D3
2005 A5	F013 E3
2006 B5	F014 E3
2007 C3	F015 E6
2008 C4	F016 G2
2009 B5	F017 G2
2010 B5	F018 G2
2011 B5	F019 G3
2012 B5	G020 H3
2013 D5	G021 H2
2014 E5	G022 H2
2015 E4	G024 H2
2016 K4	G026 I2
2017 K5	G027 I2
2018 J2	G028 J2
2019 J3	I000 A4
2020 G5	I001 B4
2021 G5	I002 A6
2022 G5	I003 B6
2023 G5	I004 B6
2024 G5	I005 B5
2025 H5	I006 C6
2026 H3	I007 C6
2027 H4	I008 D4
2028 H5	I009 D4
2029 E3	I010 D4
2030 F3	I011 E4
2031 F4	I012 H4
2032 F4	I013 D6
2033 F3	I014 G5
2034 F3	I015 G5
2035 J10	I016 H4
2036 J10	I017 G6
2037 J10	I018 G6
2038 J10	I019 H6
2039 J10	I020 H6
2040 J12	I021 H5
2041 J12	I022 D5
2042 H5	I023 D5
2043 H5	I024 D5
2044 H5	I025 F5
2045 H5	I026 J6
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B15B DMMI



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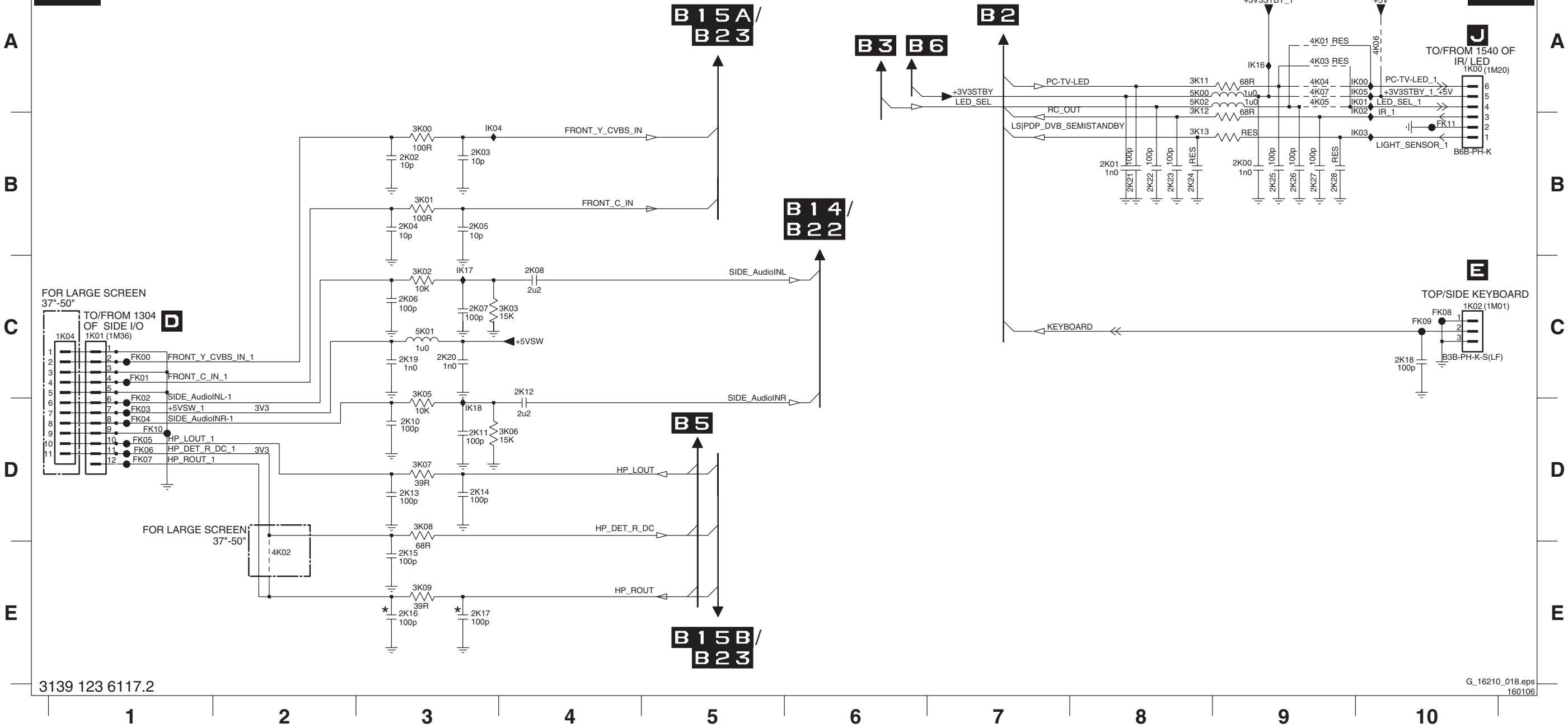
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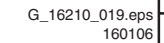
SSB: Side Connectors

1K00 A10	1K04 C1	2K02 B3	2K05 B3	2K08 C4	2K12 C4	2K15 E3	2K18 C10	2K21 B8	2K24 B8	2K27 B9	3K01 B3	3K05 C3	3K08 D3	3K12 B8	4K02 E2	4K05 A9	5K00 A8	FK00 C1	FK03 D1	FK06 D1	FK09 C10	IK00 A10	IK03 B10	IK16 A9
1K01 C1	2K00 B9	2K03 B3	2K06 C3	2K10 D3	2K13 D3	2K16 E3	2K19 C3	2K22 B8	2K25 B9	2K28 B9	3K02 C3	3K06 D4	3K09 E3	3K13 B8	4K03 A9	4K06 A10	5K01 C3	FK01 C1	FK04 D1	FK07 D1	FK10 D1	IK01 A10	IK04 B3	IK17 C3
1K02 C10	2K01 B8	2K04 B3	2K07 C3	2K11 D3	2K14 D3	2K17 E3	2K20 C3	2K23 B8	2K26 B9	3K00 B3	3K03 C4	3K07 D3	3K11 A8	4K01 A9	4K04 A9	4K07 A9	5K02 A8	FK02 D1	FK05 D1	FK08 C10	FK11 B10	IK02 A10	IK05 A10	IK18 D3

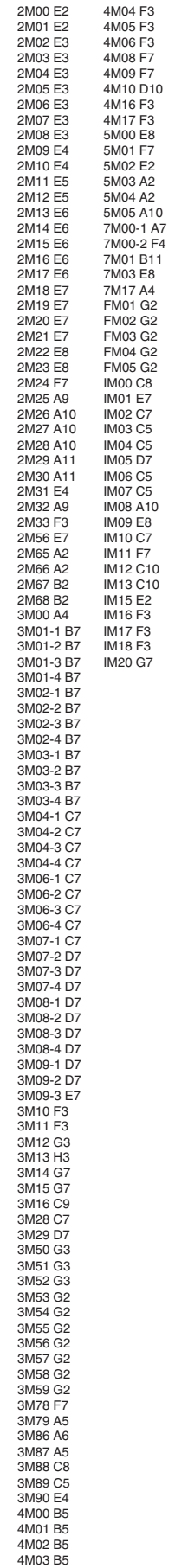
B17 SIDE CONNECTORS



B18 ADC



B19 COLUMBUS



B20 PACIFIC 3



1N02 A1	4N01 A3
1N03 H12	4N02 A3
1N04 G12	4N03 A3
1N05 J13	4N04 A3
1N1 D6	4N05 B12
1N12 E6	4N06 B3
1N13 F6	4N07 B3
1N14 F6	4N08 B3
1N15 G6	4N09 B3
1N16 A10	4N10 B3
1N17 D10	4N11 B12
1N18 D11	4N12 C12
1N19 G9	4N13 C12
1N20 J14	4N20 D8
2N01 J1	4N21 E8
2N02 J1	4N22 F8
2N03 J1	4N23 F8
2N04 J1	4N24 F8
2N05 J1	4N25 F8
2N06 J1	4N26 F8
2N07 J1	4N27 F8
2N08 J2	4N28 F9
2N09 J2	4N29 F9
2N10 J2	4N30 J12
2N11 J2	4N31 J12
2N12 J2	4N32 J12
2N13 J2	4N35 H10
2N14 J2	4N36 F9
2N15 J3	4N37 F10
2N16 J3	4N38 F8
2N17 J2	5N03 H5
2N18 J2	5N04 H2
2N19 J3	5N05 H6
2N21 J3	5N06 H6
2N22 J3	5N07 I10
2N23 J3	5N10 B2
2N24 J3	5N11 B4
2N25 J4	5N12 B3
2N26 J5	5N72 E13
2N27 J5	6N02 H11
2N28 H6	7N00-1 C3
2N29 H7	7N00-2 A13
2N30 H7	7N00-3 J8
2N31 J6	7N02 F13
2N32 J7	7N03 H4
2N33 J7	7N04 H2
2N34 J7	7N05 H9
2N36 J7	FN01 B2
2N37 J8	FN02 C3
2N38 J8	FN03 B3
2N39 J8	FN09 I4
2N40 J8	FN10 H5
2N41 J8	FN11 H7
2N42 J8	FN12 H7
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2N45 J9	FN16 B12
2N46 J9	FN17 B12
2N47 J9	FN18 B12
2N48 J9	FN19 B12
2N49 J9	FN20 C12
2N50 J9	FN21 C12
2N51 I10	FN25 C12
2N54 C2	FN32 D10
2N55 C2	FN33 D10
2N56 C3	FN34 F10
2N57 C3	FN35 F12
2N58 C3	FN36 F12
2N59 C3	FN37 F12
2N60 C3	FN39 G12
2N61 C3	FN40 G12
2N62 C4	FN41 H12
2N63 C4	FN42 H12
2N64 C4	FN43 H12
2N65 C4	FN44 H12
2N66 C4	FN46 G10
2N67 C4	FN47 H10
2N68 H13	FN48 H10
2N69 B14	FN49 H10
2N75 E13	FN50 H10
2N76 E13	FN51 H10
2N77 E7	FN52 H10
2N81 E7	FN53 H10
2N82 E7	FN54 H10
2N83 E7	FN55 H10
2N84 F7	FN56 A12
2N85 F7	FN57 A12
2N86 F7	FN58 E13
2N87 F7	FN59 F12
2N89 G7	IN01 H2
2N90 G8	IN02 H5
2N01 E1	IN03 E10
2N02 E1	IN04 E10
2N03 E1	IN05 F9
2N04 E1	IN06 F9
2N05 F1	IN07 F9
2N06 F1	IN08 F9
2N10 A12	IN09 C12
2N11 A11	IN10 C11
2N12 C12	IN11 B13
2N13 B14	IN12 B13
2N14 B14	IN13 B13
2N15 B14	IN14 F13
2N16 B14	IN15 B13
2N17 B14	IN16 G13
2N19 C11	IN17 G13
2N20 G12	IN18 J12
2N21 G12	IN19 B12
2N22 H12	IN20 B13
2N23 H13	
2N26 J13	
2N27 G10	
2N28 G10	
2N29 B13	
3N0 F8	
3N31 F8	
3N71 E12	
3N72 E12	
3N73 E12	
3N80 E8	
3N81 E8	

SSB: Diversity Tables B9-B20

B09

Item Nr.		PDP 42" - 50"	LCD 26" - 32"	LCD 37" - 42"	PDP DVB 42" - 50"	PDP DVB SDI	PDP SDI	Description
2A00	319801731040	☒	☒	☒	☒	☒	☒	CER2 0603 X7R 16V 100N COL
2A01	319803401010	☒	☒	☒	☒	☒	☒	CER1 0402 NP0 50V 100P COL
2A02	319803401010	☒	☒	☒	☒	☒	☒	CER1 0402 NP0 50V 100P COL
2A12	319803521030	☒	☒	☒	☒	☒	☒	CER2 0402 X7R 16V 10N COL
2A13	319803571040	☒	☒	☒	☒	☒	☒	CER2 0402 Y5V 16V 100N COL
2A14	319803521030	☒	☒	☒	☒	☒	☒	CER2 0402 X7R 16V 10N COL
3A00	319803106890	☒	☒	☒	☒	☒	☒	RST SM 0402 68R PM5 COL
3A01	319803106890	☒	☒	☒	☒	☒	☒	RST SM 0402 68R PM5 COL
3A02	319803101020	☒	☒	☒	☒	☒	☒	RST SM 0402 1K PM5 COL
3A07	319803101030	☒	☒	☒	☒	☒	☒	RST SM 0402 10K PM5 COL
3A08	319803101030	☒	☒	☒	☒	☒	☒	RST SM 0402 10K PM5 COL
3A10	319803101030	☒	☒	☒	☒	☒	☒	RST SM 0402 10K PM5 COL
3A11	319803101030	☒	☒	☒	☒	☒	☒	RST SM 0402 10K PM5 COL
3A13	319803101030	☒	☒	☒	☒	☒	☒	RST SM 0402 10K PM5 COL
3A14	319803104720	☒	☒	☒	☒	☒	☒	RST SM 0402 4K7 PM5 COL
3A15	319803103320	☒	☒	☒	☒	☒	☒	RST SM 0402 3K3 PM5 COL
3A16	319803101030	☒	☒	☒	☒	☒	☒	RST SM 0402 10K PM5 COL
4A03	319802190030	☒	☒	☒	☒	☒	☒	RST SM 0603 JUMP. 0R05 COL
4A04	319803190010	☒	☒	☒	☒	☒	☒	RST SM 0402 JUMP. 0R05 COL
4A05	319803190010	☒	☒	☒	☒	☒	☒	RST SM 0402 JUMP. 0R05 COL
4A06	319803190010	☒	☒	☒	☒	☒	☒	RST SM 0402 JUMP. 0R05 COL
5A00	319801890060	☒	☒	☒	☒	☒	☒	FXDIND 0805 100MHZ 30R COL R
7A00	935275998118	☒	☒	☒	☒	☒	☒	IC SM PCA9515ADP (PHSE) R
7A02	319801042310	☒	☒	☒	☒	☒	☒	TRA SIG SM BC847BW (COL) R
7A03	319801042310	☒	☒	☒	☒	☒	☒	TRA SIG SM BC847BW (COL) R
7A04	319801042310	☒	☒	☒	☒	☒	☒	TRA SIG SM BC847BW (COL) R

B13

Item Nr.		EU 10pg TXT	EU 1000pg TX	AP with TXT	AP non TXT	Description
2E04	202055200005	☒	☒	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☒	☒	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2E05	202055200005	☒	☒	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2E06	202055200005	☒	☒	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2E15	319803571040	☒	☒	☒	☒	CER2 0402 Y5V 16V 100N COL
2E21	202055200005	☒	☒	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2E22	202055200005	☒	☒	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2E23	202055200005	☒	☒	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
3E00	232270570569	☒	☒	☒	☒	RST SM 0402 RC31 56R PM5 R
3E01	232270570569	☒	☒	☒	☒	RST SM 0402 RC31 56R PM5 R
3E02	232270570569	☒	☒	☒	☒	RST SM 0402 RC31 56R PM5 R
3E13	319803103310	☒	☒	☒	☒	RST SM 0402 330R PM5 COL
	319803190010	☒	☒	☒	☒	RST SM 0402 JUMP. 0R05 COL
3E14	319803103310	☒	☒	☒	☒	RST SM 0402 330R PM5 COL
	319803190010	☒	☒	☒	☒	RST SM 0402 JUMP. 0R05 COL
3E15	319803103310	☒	☒	☒	☒	RST SM 0402 330R PM5 COL
	319803190010	☒	☒	☒	☒	RST SM 0402 JUMP. 0R05 COL
3E16	319803103310	☒	☒	☒	☒	RST SM 0402 330R PM5 COL
3E17	319803103310	☒	☒	☒	☒	RST SM 0402 330R PM5 COL
3E18	319803103310	☒	☒	☒	☒	RST SM 0402 330R PM5 COL
3E32	319803101010	☒	☒	☒	☒	RST SM 0402 100R PM5 COL
3E34	319803101010	☒	☒	☒	☒	RST SM 0402 100R PM5 COL
3E46	319803101010	☒	☒	☒	☒	RST SM 0402 100R PM5 COL
	319803101090	☒	☒	☒	☒	RST SM 0402 10R PM5 COL
4E10	319803101090	☒	☒	☒	☒	RST SM 0402 10R PM5 COL
4E11	319803101090	☒	☒	☒	☒	RST SM 0402 10R PM5 COL
5E02	242254945333	☒	☒	☒	☒	IND FXD 1206 EMI 100MHZ 120R R
5E03	242254945333	☒	☒	☒	☒	IND FXD 1206 EMI 100MHZ 120R R
6E01	319802052780	☒	☒	☒	☒	DIO REG SM BZX384-C2V7 COL R
6E03	319802052780	☒	☒	☒	☒	DIO REG SM BZX384-C2V7 COL R
7E02	932219956668	☒	☒	☒	☒	IC SM ADG781BCPZ (ANA0) R
7E03	319801071090	☒	☒	☒	☒	IC SM 74HC4053D (COL) R
7E04	319801070740	☒	☒	☒	☒	IC SM 74LCX14T (COL) R
	935260739118	☒	☒	☒	☒	IC SM 74LVC14APW (PHSE) R
7E05	319801070740	☒	☒	☒	☒	IC SM 74LCX14T (COL) R
	935260739118	☒	☒	☒	☒	IC SM 74LVC14APW (PHSE) R

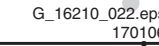
B15AB

Item Nr.		Non DVB	With DVB	Description
1G03	242202518872	☒	☒	CON H 32P F 0.50 SM FPC 0.3 R
2G31	202055200005	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G32	319801741050	☒	☒	CER2 0603 Y5V 10V 1U COL
	319803041090	☒	☒	ELCAP SM 16V 10U PM20 COL R
2G35	319803571040	☒	☒	CER2 0402 Y5V 16V 100N COL
2G36	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G37	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G38	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G39	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G40	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G41	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G45	319801731020	☒	☒	CER2 0603 X7R 50V 1N COL
	319803501020	☒	☒	CER2 0402 X7R 50V 1N COL
2G48	319801741050	☒	☒	CER2 0603 Y5V 10V 1U COL
2G49	319801741050	☒	☒	CER2 0603 Y5V 10V 1U COL
2G50	319803041090	☒	☒	ELCAP SM 16V 10U PM20 COL R
2G51	319803571040	☒	☒	CER2 0402 Y5V 16V 100N COL
2G52	202055296703	☒	☒	CER1 0402 NP0 50V 180P PM5 R
2G53	202055296703	☒	☒	CER1 0402 NP0 50V 180P PM5 R
2G62	202055200035	☒	☒	CER2 0603 X5R 6V3 2U2 PM10 R
	202055200183	☒	☒	CER2 0603 X5R 6V3 2U2 PM10 R
2G63	202055200035	☒	☒	CER2 0603 X5R 6V3 2U2 PM10 R
	202055200183	☒	☒	CER2 0603 X5R 6V3 2U2 PM10 R
2G65	202055200005	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G66	202055200005	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
2G72	202055200005	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☒	☒	CER2 0603 X5R 6V3 4U7 PM10 R
3G40	319803101010	☒	☒	RST SM 0402 100R PM5 COL
3G41	319803101010	☒	☒	RST SM 0402 100R PM5 COL
3G42	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G43	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G44	319803101020	☒	☒	RST SM 0402 1K PM5 COL
3G45	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G46	319803101020	☒	☒	RST SM 0402 1K PM5 COL
3G47	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G48	319803106890	☒	☒	RST SM 0402 68R PM5 COL
3G49	319803101020	☒	☒	RST SM 0402 1K PM5 COL
3G50	319803106890	☒	☒	RST SM 0402 68R PM5 COL
3G51	319803101020	☒	☒	RST SM 0402 1K PM5 COL
3G52	319803101020	☒	☒	RST SM 0402 1K PM5 COL
3G53	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G54	319803101020	☒	☒	RST SM 0402 1K PM5 COL
3G55	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G56	319803101010	☒	☒	RST SM 0402 100R PM5 COL
3G60	319803104720	☒	☒	RST SM 0402 4K7 PM5 COL
3G61	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G62	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G63	319803101010	☒	☒	RST SM 0402 100R PM5 COL
3G64	319803101010	☒	☒	RST SM 0402 100R PM5 COL
3G65	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G66	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G67	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G68	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G69	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G70	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G71	319803101010	☒	☒	RST SM 0402 100R PM5 COL
3G80	319803106890	☒	☒	RST SM 0402 68R PM5 COL
3G81	319803101020	☒	☒	RST SM 0402 1K PM5 COL
3G83	319803101030	☒	☒	RST SM 0402 10K PM5 COL
3G84	319803101030	☒	☒	RST SM 0402 10K PM5 COL
3G85	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G86	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G87	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G88	319803101020	☒	☒	RST SM 0402 1K PM5 COL
3G89	319803104730	☒	☒	RST SM 0402 47K PM5 COL
3G90	319803101020	☒	☒	RST SM 0402 1K PM5 COL
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3G92	319803102230	☒	☒	RST SM 0402 22K PM5 COL

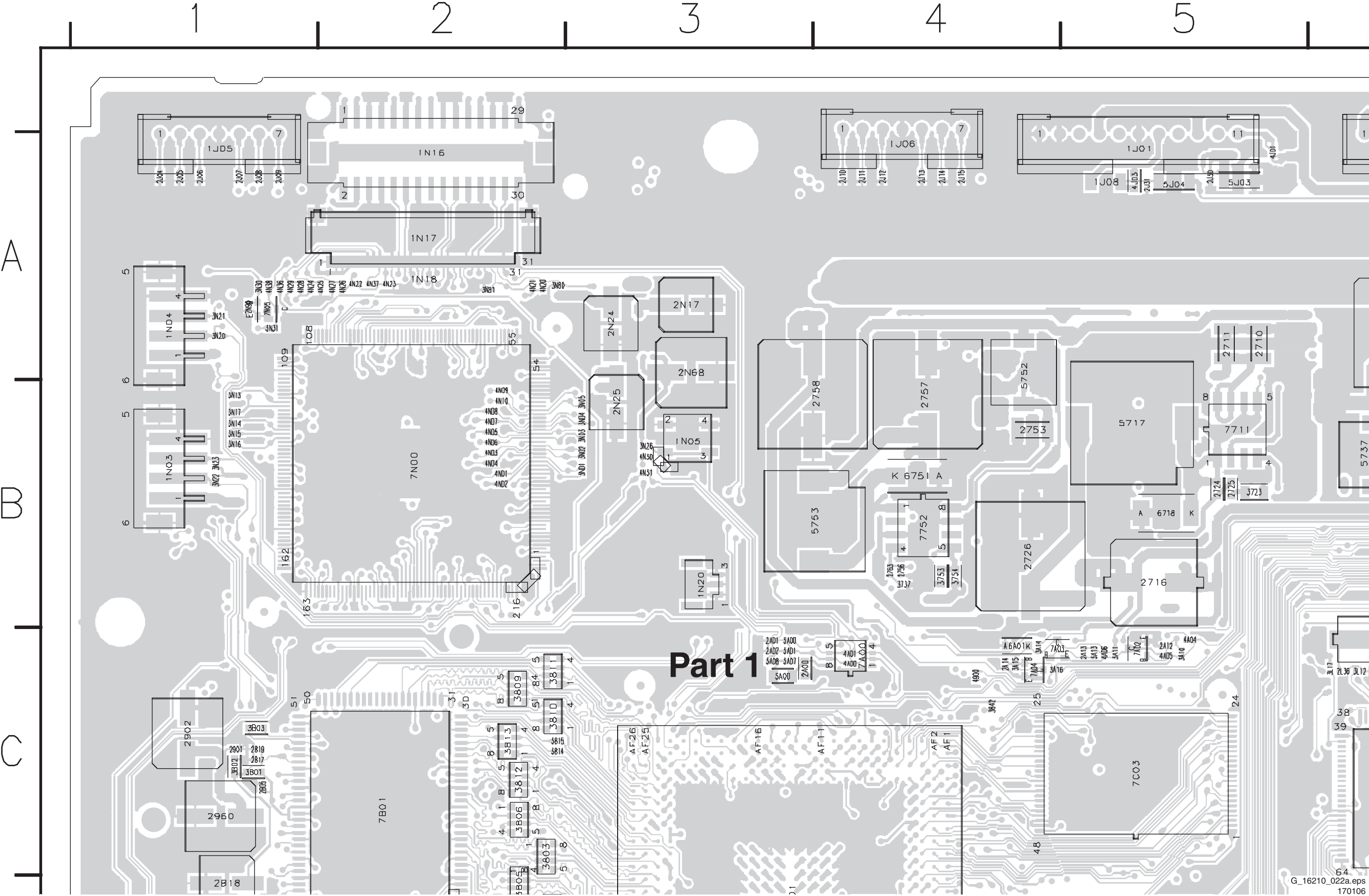
B16

Item Nr.		LCD 37" - 42"	LCD 26" - 32"	PDP 42" - 50"	Description
1J00	242202510771	☒	☒	☒	CON

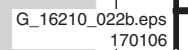
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1153	C9	IJ00	A7	I304	A1	2214	C8	2235	B8	2257	B7	2270	B8	2447	B7	2711	A5	2815	D4	2802	D1	2E31	E3	2G23	F4	2G45	E6	2J07	A1	2J22	A7	2K05	C10	2L16	C7	2L96	C6	3216	C7	3245	C9	3279	C7	3753	B4	3814	C2	3802	C1	3E35	E4	3F04	F1	3G30	F5	3G46	E5	3G62	E8	3G83	E6	4G16	E7	6G14	F4
1154	C9	IJ01	A5	I305	B3	2216	C8	2236	B8	2255	C8	2271	B7	2448	B7	2716	B5	2901	C1	2805	C1	2E32	E4	2G29	F7	2G48	E5	2J08	A1	2J23	A7	2K06	C10	2L17	C7	2L98	C6	3217	C7	3262	C8	3280	C8	3754	B4	3815	C2	3803	C1	3E36	E4	3G01	F6	3G31	F4	3G47	E5	3G63	E8	3G84	E6	4G17	E7	6G15	F4
1156	C9	IJ02	A6	I306	A4	2218	C7	2237	B7	2256	B8	2272	B7	2501	B8	2724	B5	2902	C1	2817	C1	2E36	E4	2G30	F7	2G49	E5	2J09	A1	2J26	A8	2K07	C10	2L18	C7	2M27	D7	3222	B8	3263	C8	3281	C8	3801	D2	3816	D2	3D05	E1	3E37	E4	3G02	F6	3G32	F5	3G48	E5	3G64	E8	3G85	E7	4G18	F5	7206	C7
1201	C8	IJ03	A8	I317	A2	2221	B9	2238	B8	2257	C9	2274	C9	2502	B8	2725	B5	2903	D5	2818	D1	2G01	F6	2G31	F6	2G50	E5	2J10	A4	2J27	A9	2K08	C10	2L19	B6	2M28	D7	3223	B7	3264	B8	3282	D8	3802	D2	3842	C4	3D06	D1	3E38	E4	3G03	E6	3G33	F5	3G49	E5	3G65	E8	3G86	E7	4G19	E6	7214	C8
1202	B9	IJ04	A9	I318	A2	2222	B8	2240	B7	2258	B8	2275	B8	2503	A8	2726	B4	2904	D5	2819	C1	2G02	F6	2G32	E5	2G51	E5	2J11	A4	2J28	A8	2K19	C10	2L20	C6	2M29	E6	3224	B8	3265	C8	3285	C8	3803	C2	3A00	C3	3D11	E2	3E39	E4	3G06	F7	3G34	F5	3G50	E5	3G66	E8	3G87	E7	4G22	F5	7215	C8
1240	C7	IJ05	A1	I320	B3	2223	B7	2241	B7	2259	C8	2276	B8	2504	A9	2726	A6	2904	E5	2D02	D1	2G03	F6	2G34	E7	2G52	E6	2J12	A4	2J29	A8	2K20	C10	2L25	C7	2N17	A3	3225	B7	3266	C8	3286	C8	3804	D2	3A01	C3	3D15	D2	3E43	E4	3G07	E7	3G35	F5	3G51	E5	3G67	E7	3G89	E7	4G23	F5	7216	C8
1441	A7	IJ06	A4	2203	B7	2224	B7	2242	C8	2260	B8	2277	C7	2505	B9	2736	A7	2940	E3	2D42	E1	2G04	F6	2G35	E8	2G53	E7	2J13	A4	2J30	A5	2L02	D7	2L31	C7	2N24	A3	3226	B8	3267	C8	3291	D8	3805	D2	3A07	C3	3D16	D2	3E46	E4	3G08	F7	3G36	F5	3G52	E5	3G68	E7	3G97	E6	4J01	A5	7218	C7
1442	A7	IJ07	A6	2205	C8	2226	C8	2243	C8	2262	C9	2278	C7	25																																																			



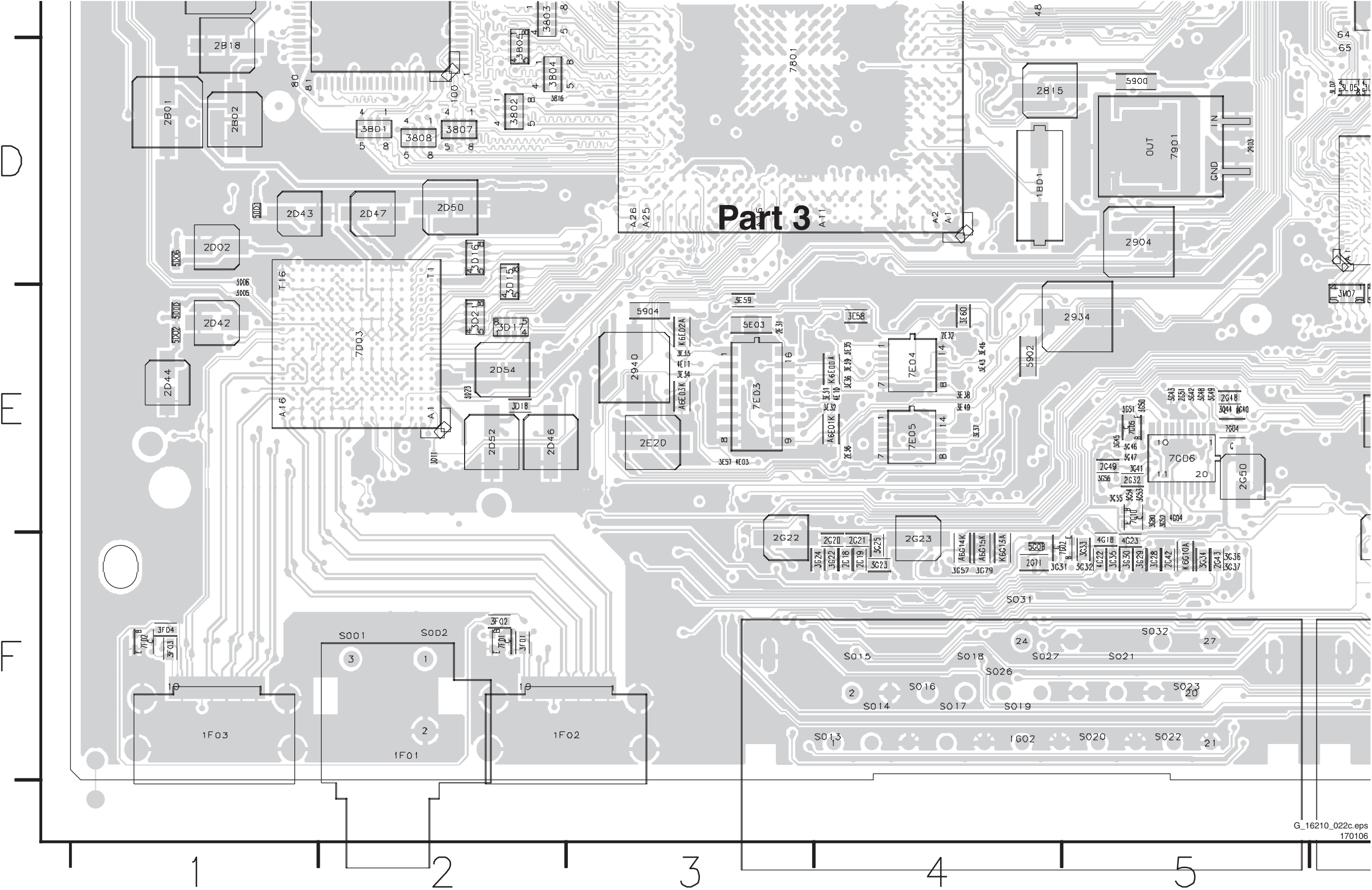
Layout Small Signal Board (Top Side Part 1)



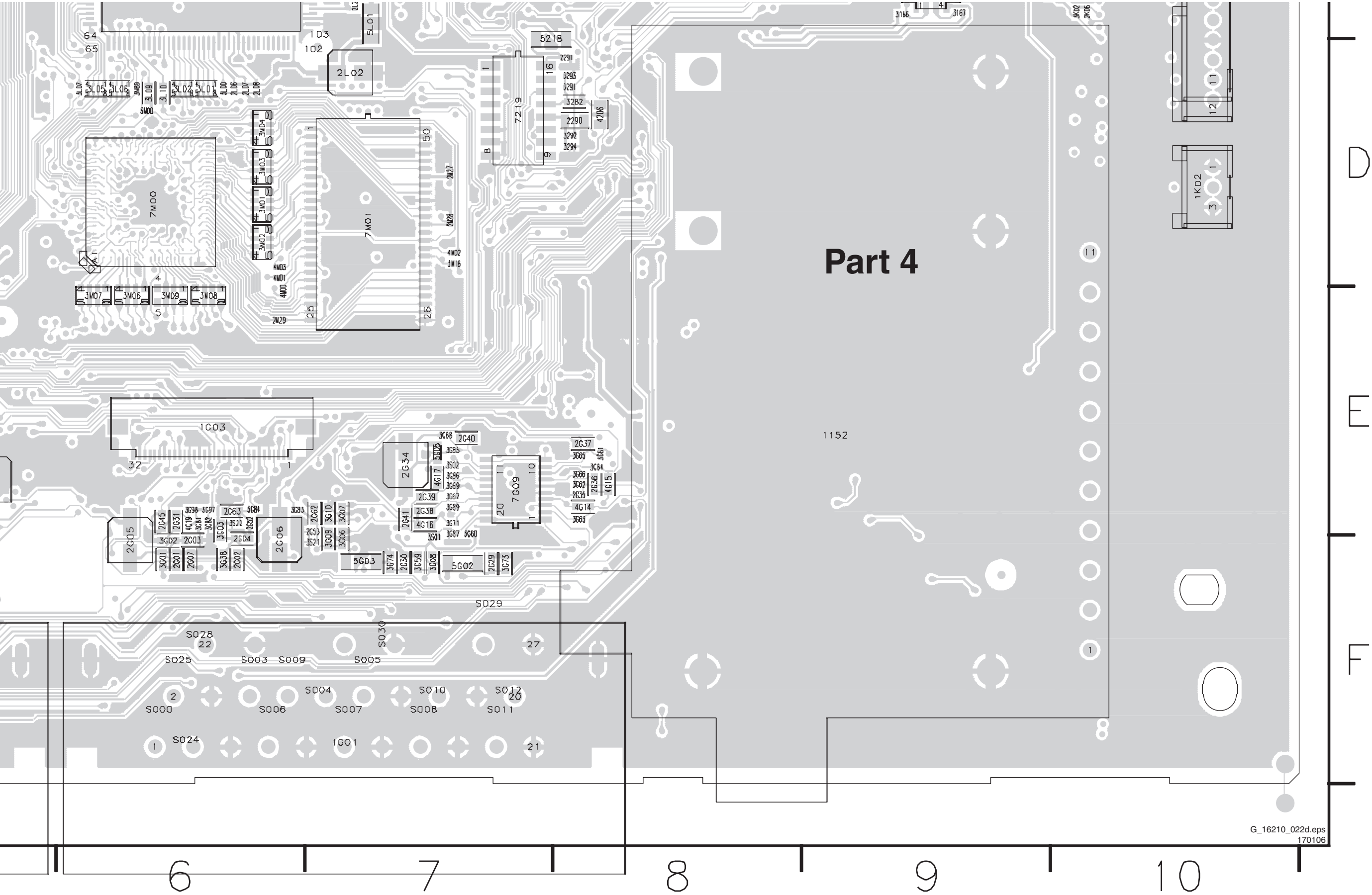
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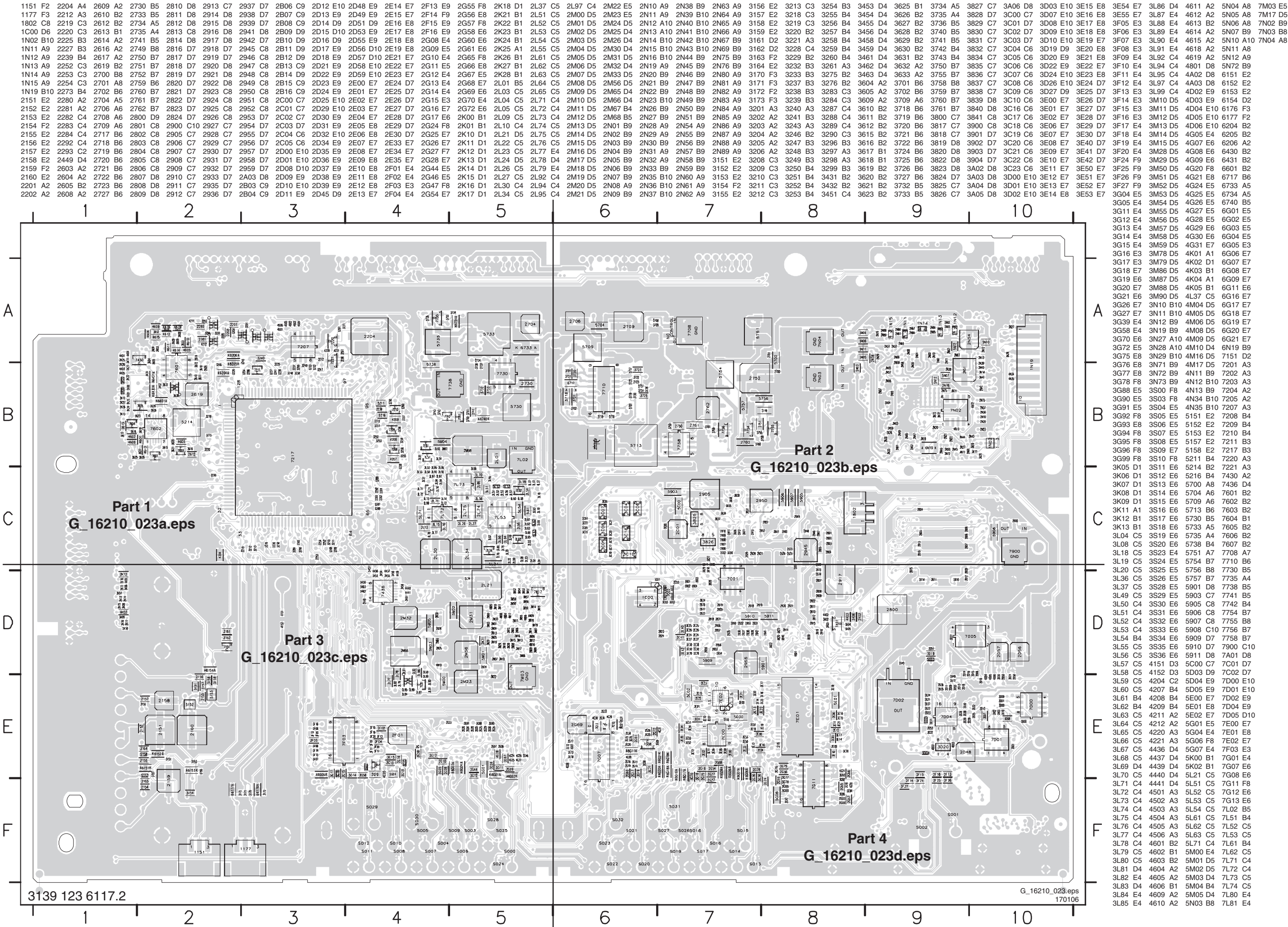
Layout Small Signal Board (Top Side Part 3)



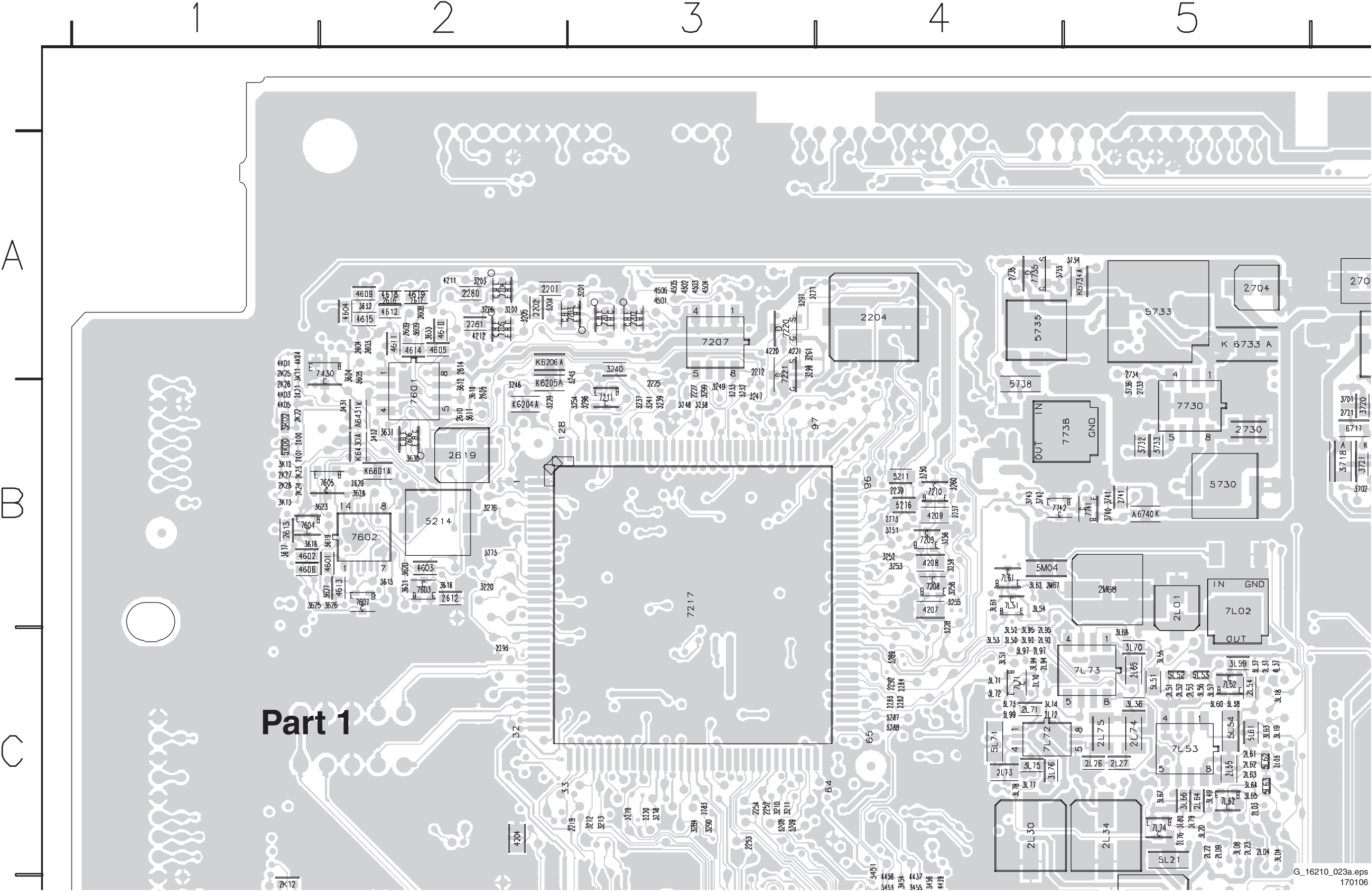
Layout Small Signal Board (Top Side Part 4)



Layout Small Signal Board (Bottom Side Overview)



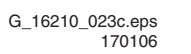
Layout Small Signal Board (Bottom Side Part 1)



10



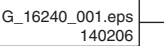
Part 3



The image shows a detailed grayscale layout of a printed circuit board (PCB). The layout is complex, featuring numerous components, traces, and labels. The components are arranged in a grid-like pattern, with various labels such as 7C01, 7C02, 7C03, 7C04, 7C05, 7C06, 7C07, 7C08, 7C09, 7C10, 7C11, 7C12, 7C13, 7C14, 7C15, 7C16, 7C17, 7C18, 7C19, 7C20, 7C21, 7C22, 7C23, 7C24, 7C25, 7C26, 7C27, 7C28, 7C29, 7C30, 7C31, 7C32, 7C33, 7C34, 7C35, 7C36, 7C37, 7C38, 7C39, 7C40, 7C41, 7C42, 7C43, 7C44, 7C45, 7C46, 7C47, 7C48, 7C49, 7C50, 7C51, 7C52, 7C53, 7C54, 7C55, 7C56, 7C57, 7C58, 7C59, 7C60, 7C61, 7C62, 7C63, 7C64, 7C65, 7C66, 7C67, 7C68, 7C69, 7C70, 7C71, 7C72, 7C73, 7C74, 7C75, 7C76, 7C77, 7C78, 7C79, 7C80, 7C81, 7C82, 7C83, 7C84, 7C85, 7C86, 7C87, 7C88, 7C89, 7C90, 7C91, 7C92, 7C93, 7C94, 7C95, 7C96, 7C97, 7C98, 7C99, 7C100. The text "Part 4" is visible in the bottom right corner.

Part 4

2011 B2	2023 E4	2037 G6	2046 H10	2055 F2	2066 F9	3013 A2	3022 C5	3039 F-1 A	3043 E1	3056 F2	3069 G10	3078 E12	3088 C10	5014 G7	7010-13 F3	7016-2 F4	7023-1 E13	9003-1 F6	ID11 E15	ID22 F12	ID31 B8	ID40 G7	ID49 A3	ID61 C4	ID74 F9	ID86 F4
2012 E4	2028 F2	2038 G2	2046 H2	2056 F6	2067 H2	3014 A2	3023 D4	3039-2 E4	3044 F5	3057 F9	3070 G11	3079 G12	3080 E9	5015 G15	7010-4 B3	7017 G4	7023-2 F12	9003-2 F6	ID12 E11	ID23 F2	ID32 G5	ID41 G15	ID50 B4	ID62 F1	ID75 F11	ID87 F4
2015 E7	2028 F9	2039 F13	2048 H3	2057 F14	2068 H4	3015 B4	3024 C4	3039-3 G3	3045 F12	3058 G11	3071 H3	3081 G4	3081 E9	5016 G2	7011-1 B5	7018-1 E5	7024-1 E2	9003-3 F6	ID13 E4	ID24 F9	ID33 G12	ID42 G3	ID51 B4	ID63 C7	ID76 F11	ID89 B10
2017 E15	2028 G7	2040 F13	2049 H10	2060 H9	2070 C4	3016 B5	3025 C3	3039-4 E5	3046 F6	3060 H1	3072 H11	3082 C7	3092 H3	5018 E6	7011-2 C5	7018-2 F5	7025-1 C8	9003-4 F6	ID14 E5	ID25 F1	ID34 G3	ID43 G10	ID52 B2	ID65 E7	ID77 E14	ID92 B6
2019 E15	2030 F8	2041 G7	2050 H7	2061 G1	2071 G1	3017 G1	3026 C4	3039-5 G1	3046 F4	3061 H4	3073 G11	3083 F11	3094 F11	5019 B4	7012-1 B4	7019-1 E4	7025-2 F12	9004-1 F6	ID15 B2	ID26 F6	ID35 G6	ID44 G15	ID53 B4	ID66 C7	ID78 F13	ID93 B6
2019 F2	2031 F11	2042 G7	2051 C8	2062 H9	2072 F9	3018 B2	3034 E3	3040-2 G11	3049 E1	3064 G4	3074 H11	3084 B8	5010 E7	6010 B4	7012-2 C4	7020 E12	7026-1 C9	9004-2 F13	ID16 F6	ID27 F10	ID36 G4	ID45 H3	ID54 B3	ID70 B8	ID80 E1	cD01 D15
2020 F7	2032 F6	2043 G14	2052 E6	2063 C6	2070 A3	3019 B4	3035 E4	3040-3 E11	3050 F1	3085 B8	3075 B9	3085 E8	5011 E15	6011 C4	7014 F4	7021-1 F12	7026-2 B10	9004-3 F13	ID17 F13	ID28 F4	ID37 G11	ID46 H3	ID55 C6	ID71 C10	ID81 E1	cD04 D15
2021 G14	2035 F2	2044 G15	2053 F7	2064 E9	2071 B4	3020 B5	3037 E11	3040-4 E13	3051 F9	3067 G3	3076 G5	3086 C10	5012 F6	7010-1 A3	7015 E5	7021-2 F12	7030 E6	9004-4 F13	ID20 F2	ID29 F12	ID38 G10	ID47 H11	ID56 C4	ID72 C10	ID82 F5	cD05 D15
2022 G14	2036 F10	2045 H3	2054 F14	2065 E9	2072 B4	3021 B3	3038 E11	3042 C3	3054 F1	3068 G3	3077 E6	3087 C10	5013 F14	7010-2 F3	7016-1 F5	7022 G12	7031 E14	ID10 E7	ID21 F11	ID30 B7	ID48 B6	ID57 C3	ID73 B9	ID83 F6		



Audio Panel: Amplifier

C2 AUDIO: CONNECTORS

C2

A

B

C

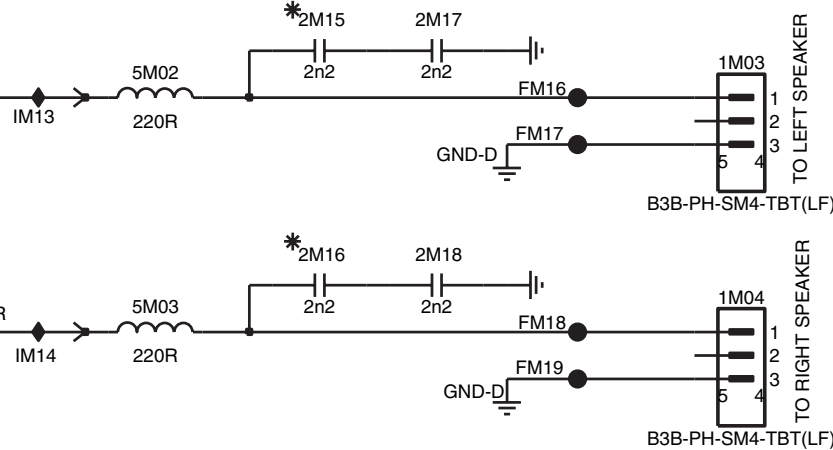
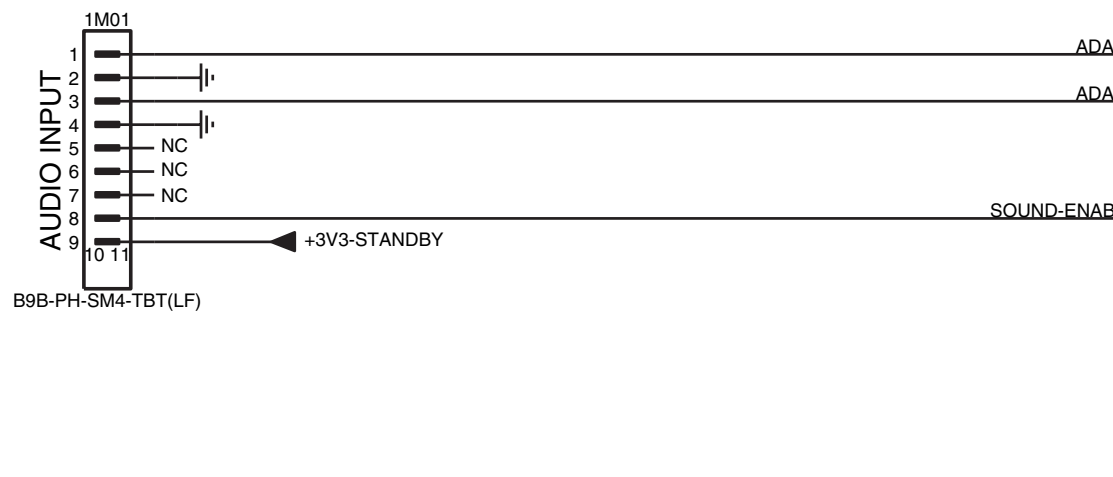
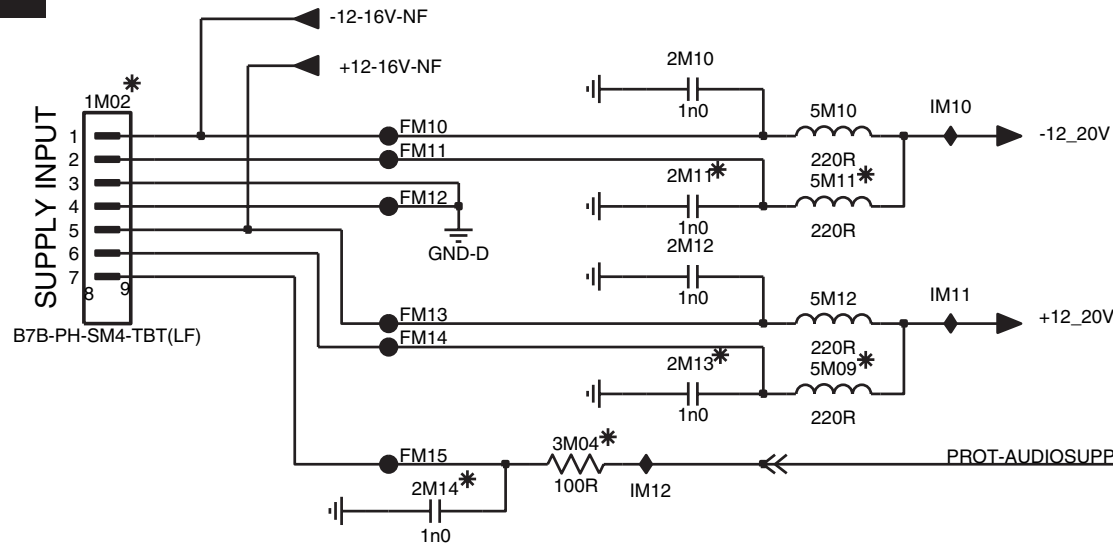
D

A

B

C

D

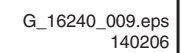


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- 1M01 C1
- 1M02 A1
- 1M03 C7
- 1M04 C7
- 2M10 A3
- 2M11 A3
- 2M12 A3
- 2M13 B3
- 2M14 B2
- 2M15 C6
- 2M16 C6
- 2M17 C6
- 2M18 C6
- 3M04 B2
- 5M02 C5
- 5M03 C5
- 5M09 B3
- 5M10 A3
- 5M11 A3
- 5M12 B3
- FM10 A2
- FM11 A2
- FM12 A2
- FM13 B2
- FM14 B2
- FM15 B2
- FM16 C6
- FM17 C6
- FM18 D6
- FM19 D6
- IM10 A3
- IM11 B3
- IM12 B2
- IM13 C5
- IM14 D5

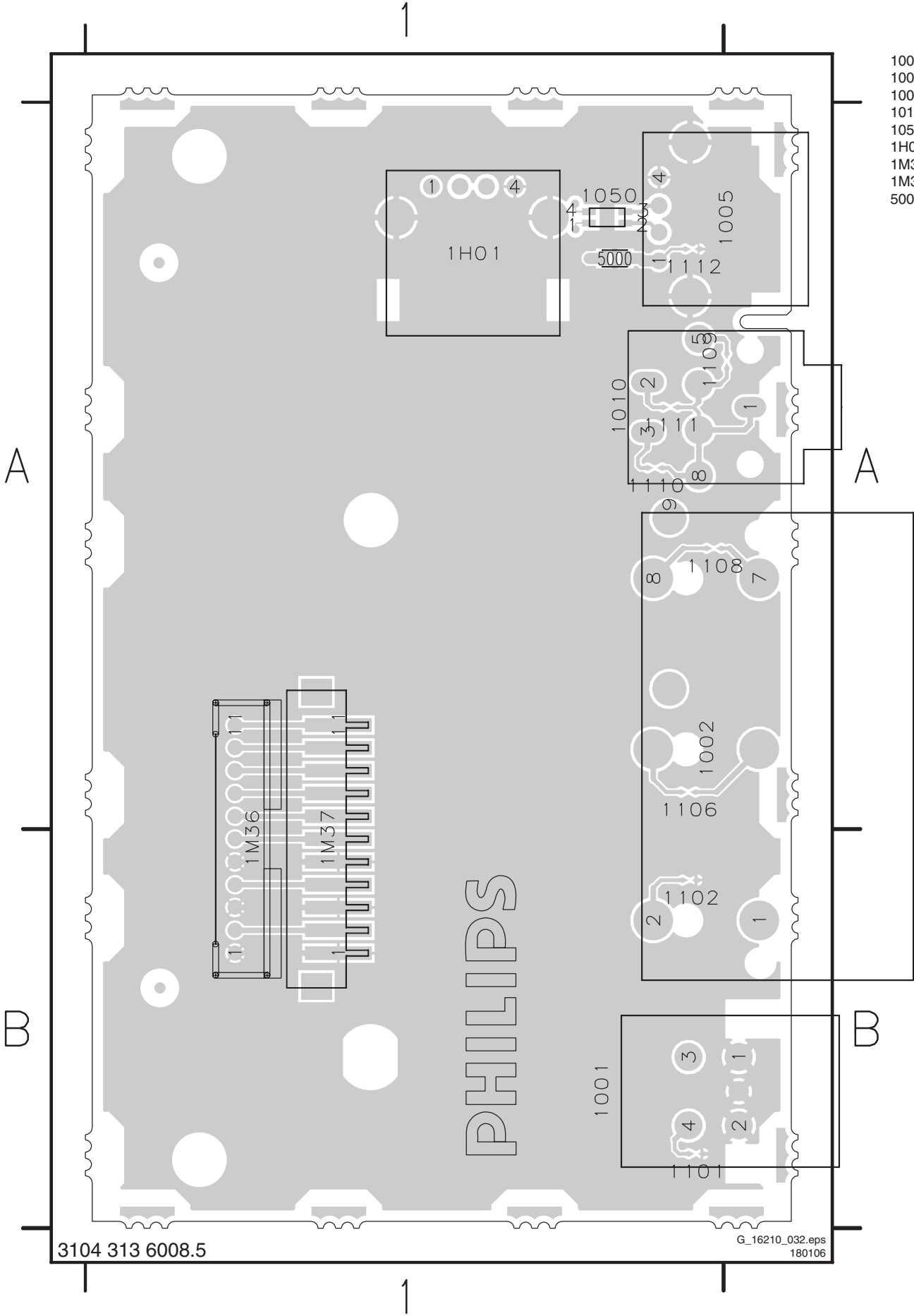
D SIDE I/O



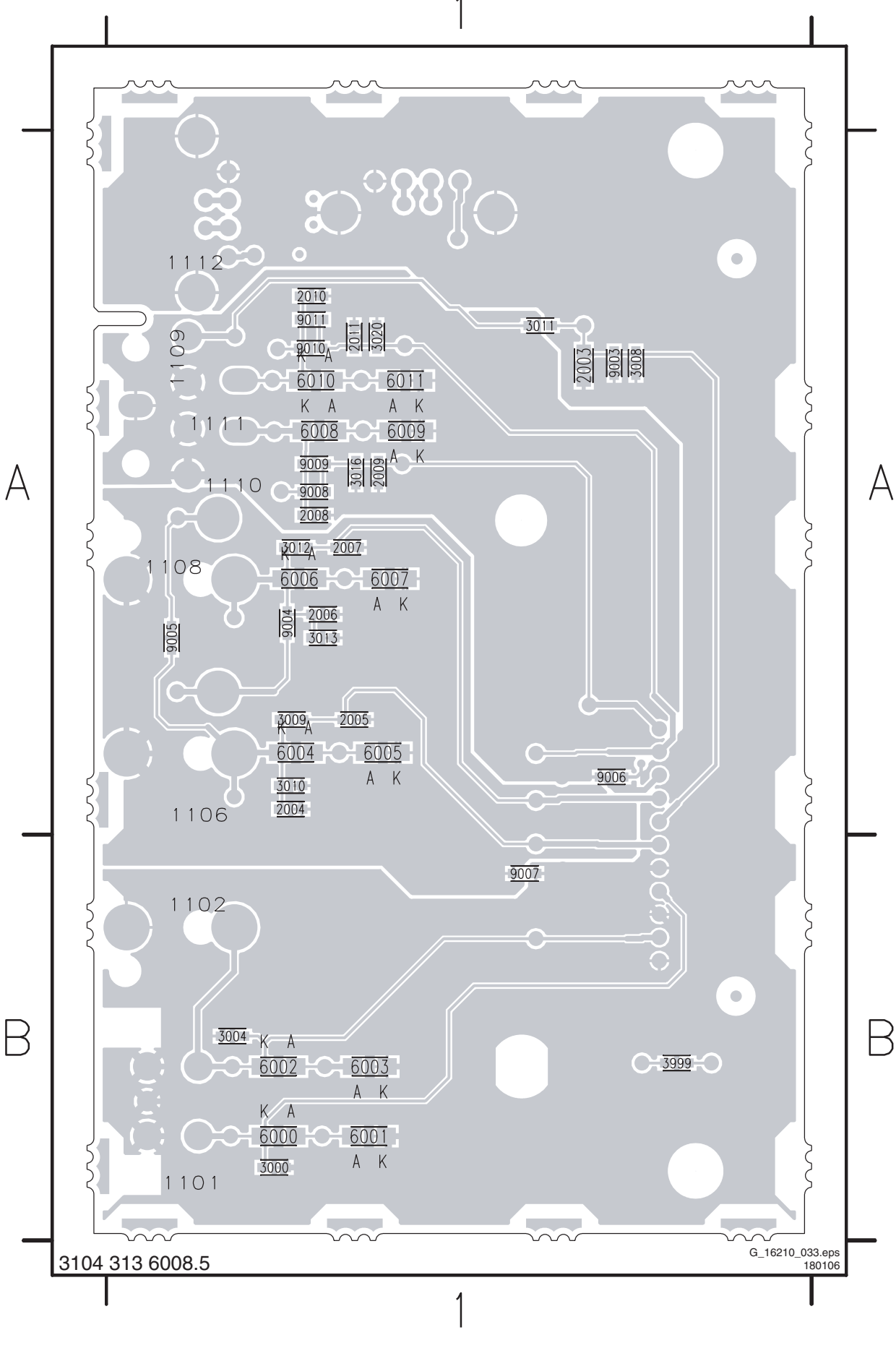
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1002-1 B1	F003 B2
1002-2 C1	F004 C2
1002-3 D1	F005 C2
1005 A8	F006 D2
1010 E1	F007 E2
1050 A7	F008 E2
1101 A3	F009 E2
1102 B3	F010 F8
1106 C3	F011 F9
1108 D3	F012 A6
1109 E3	F013 A7
1110 F3	F014 A6
1111 E3	F015 A7
1112 A7	F016 A6
1H01 A6	F017 A7
1M36 B8	F018 F7
1M37 B8	F019 F2
2003 C5	F020 B4
2004 C3	F021 C6
2005 C4	F022 C6
2006 D3	F023 C6
2007 D4	F024 E6
2008 F2	F025 E6
2009 F5	I001 C2
2010 E2	I002 C3
2011 E5	I003 D2
3000 A4	I004 A3
3004 B3	I005 F4
3008 C5	I006 F4
3009 C4	I007 E4
3010 C4	I008 E4
3011 C5	I009 B3
3012 D4	I010 D3
3013 D4	I011 F7
3016 F5	I012 F8
3020 E5	I013 F3
3999 F9	I014 E3
5000 A7	
6000 A3	
6001 A3	
6002 B3	
6003 B3	
6004 C3	
6005 C3	
6006 D3	
6007 D3	
6008 F3	
6009 F3	
6010 E3	
6011 F3	
9003 C6	
9004 C2	
9005 D2	
9006 F7	
9007 F8	
9008 F4	
9009 F4	
9010 E4	
9011 E4	
F001 A2	

Layout Side I/O Panel (Top Side)

Layout Side I/O Panel (Bottom Side)



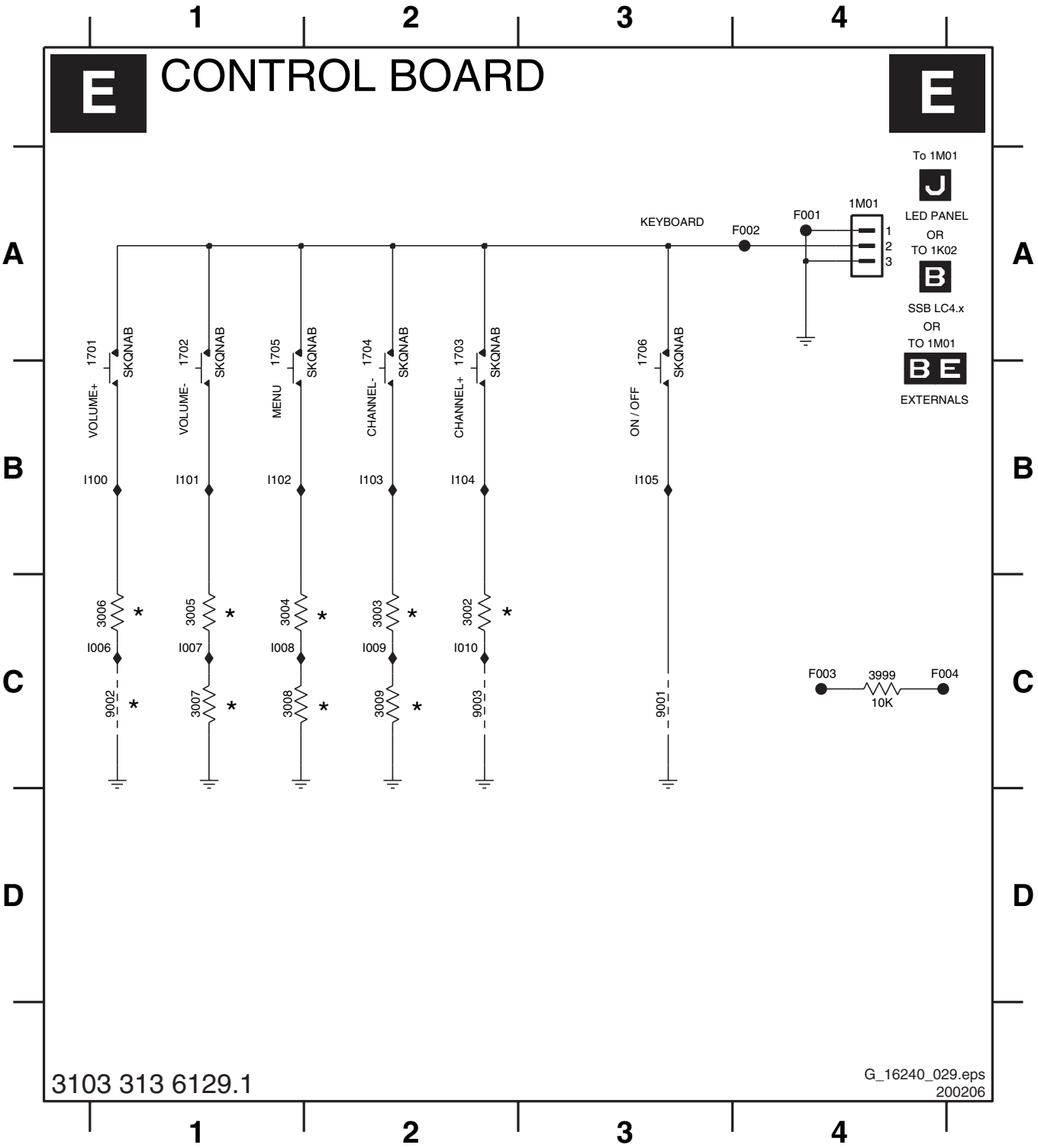
- 1001 B1
- 1002 A1
- 1005 A1
- 1010 A1
- 1050 A1
- 1H01 A1
- 1M36 B1
- 1M37 B1
- 5000 A1



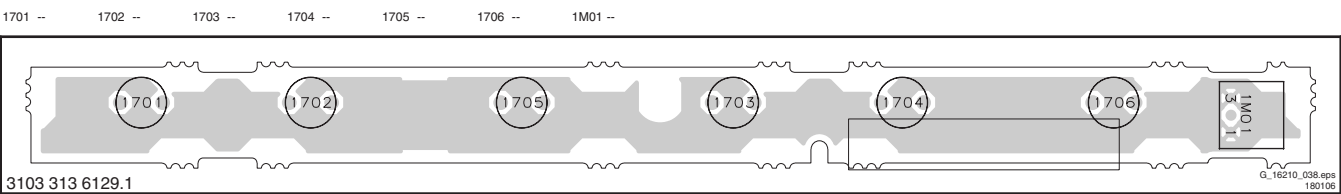
- 2003 A1
- 2004 A1
- 2005 A1
- 2006 A1
- 2007 A1
- 2008 A1
- 2009 A1
- 2010 A1
- 2011 A1
- 2012 A1
- 2013 A1
- 2016 A1
- 2020 A1
- 3999 B1
- 6000 B1
- 6001 B1
- 6002 B1
- 6003 B1
- 6004 A1
- 6005 A1
- 6006 A1
- 6007 A1
- 6008 A1
- 6009 A1
- 6010 A1
- 6011 A1
- 9003 A1
- 9004 A1
- 9005 A1
- 9006 A1
- 9007 B1
- 9008 A1
- 9009 A1
- 9010 A1
- 9011 A1

Keyboard Control Board

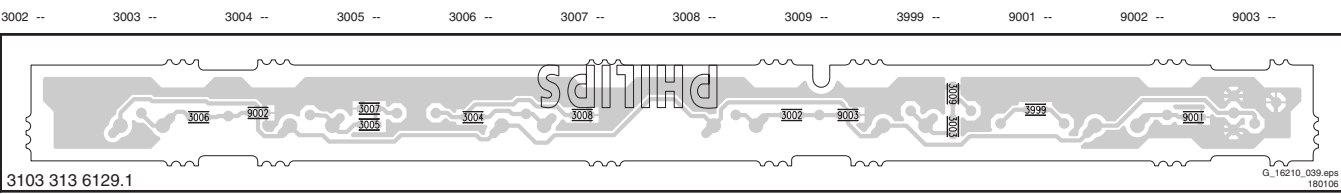
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1702 A1	1705 A1	3002 C2	3005 C1	3008 C1	9001 C3	F001 A4	F004 C4	I008 C1	I100 B1	I103 B2	
1703 A2	1706 A3	3003 C2	3006 C1	3009 C2	9002 C1	F002 A4	I006 C1	I009 C2	I101 B1	I104 B2	



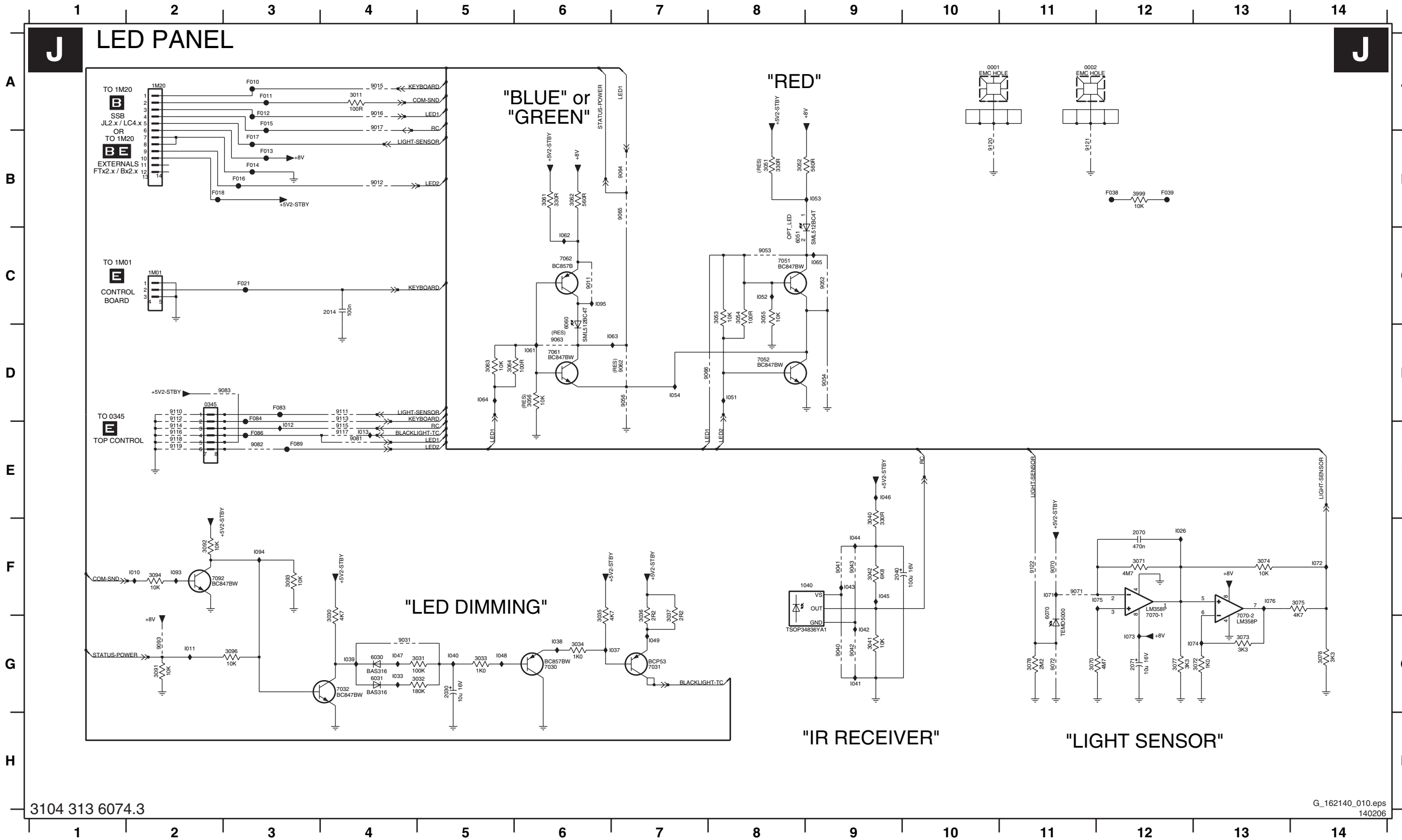
Layout Keyboard Control Board (37") (Top Side)



Layout Keyboard Control Board (37") (Bottom Side)

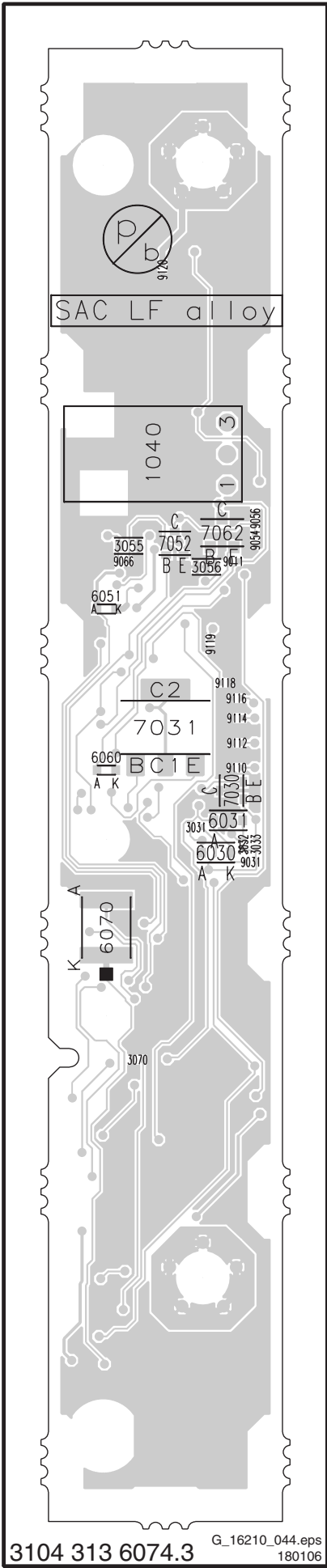


Front IR / LED Panel



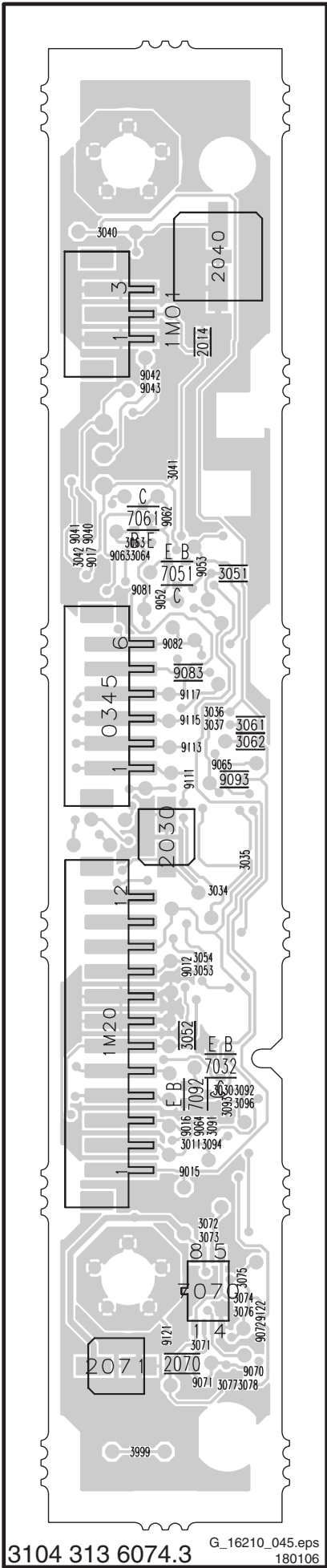
- 0001 A10
- 0002 A11
- 0345 D2
- 1040 F9
- 1M01 C2
- 1M20 A2
- 2014 C4
- 2030 G5
- 2040 F9
- 2070 F12
- 2071 G12
- 3011 A4
- 3030 G4
- 3031 G5
- 3032 G5
- 3033 G5
- 3034 G6
- 3035 G6
- 3036 G7
- 3037 G7
- 3040 F9
- 3041 G9
- 3042 F9
- 3051 B8
- 3052 B8
- 3053 C8
- 3054 C8
- 3055 C8
- 3056 D6
- 3061 B6
- 3062 B6
- 3063 D5
- 3064 D5
- 3070 G11
- 3071 F12
- 3072 G13
- 3073 G13
- 3074 F13
- 3075 F14
- 3076 G14
- 3077 G12
- 3078 G11
- 3091 G2
- 3092 F2
- 3093 F2
- 3094 F2
- 3096 C3
- 3999 B12
- 6030 G4
- 6031 G4
- 6051 C8
- 6060 C6
- 6070 G11
- 7030 G6
- 7031 G7
- 7032 G4
- 7051 C8
- 7052 D8
- 7061 D6
- 7062 C6
- 7070-1 F12
- 7070-2 G13
- 7092 F2
- 9011 C6
- 9012 B4
- 9015 A4
- 9016 A4
- 9017 A4
- 9031 G4
- 9040 G9
- 9041 F9
- 9042 G9
- 9043 F9
- 9052 C9
- 9053 C8
- 9054 D9
- 9056 D7
- 9062 D7
- 9063 D6
- 9064 B7
- 9065 B7
- 9066 D7
- 9070 F11
- 9071 F11
- 9072 G11
- 9081 E4
- 9082 E3
- 9083 D3
- 9093 G2
- 9110 D2
- 9111 D4
- 9112 D2
- 9113 D4
- 9114 E2
- 9115 E4
- 9116 E2
- 9117 E4
- 9118 E2
- 9119 E2
- 9120 B10
- 9121 B11
- 9122 F11
- F010 A3
- F011 A3
- F012 B3
- F013 B3
- F014 B3
- F015 A3
- F016 B3
- F017 B3
- F018 B2
- F021 C3
- F038 B12
- F083 D3
- F084 D3
- F086 E3
- F089 E3
- I010 F2
- I011 G2
- I012 E3
- I013 E4
- I026 F12
- I033 G4
- I037 G7
- I038 G6
- I039 G4
- I040 G5
- I041 G9
- I042 G9
- I043 F9
- I044 F9
- I045 F9
- I046 E9
- I047 G4
- I048 G5
- I049 G7
- I051 D8
- I052 C8
- I053 B9
- I054 D7
- I061 D6
- I062 C6
- I063 D7
- I064 D5
- I065 C9
- I071 F11
- I072 F14
- I073 G12
- I074 G12
- I075 F12
- I076 F13
- I093 F2
- I094 F3
- I095 C6

Layout Front IR / LED Panel (Top Side)



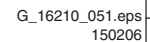
- 1040 --
- 3031 --
- 3032 --
- 3033 --
- 3055 --
- 3056 --
- 3070 --
- 6030 --
- 6031 --
- 6051 --
- 6060 --
- 6070 --
- 7030 --
- 7031 --
- 7052 --
- 7062 --
- 9011 --
- 9031 --
- 9054 --
- 9056 --
- 9066 --
- 9110 --
- 9112 --
- 9114 --
- 9116 --
- 9118 --
- 9119 --
- 9120 --

Layout Front IR / LED Panel (Bottom Side)

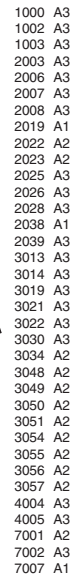


- 0345 --
- 1M01 --
- 1M20 --
- 2014 --
- 2030 --
- 2040 --
- 2070 --
- 2071 --
- 3011 --
- 3030 --
- 3034 --
- 3035 --
- 3036 --
- 3037 --
- 3040 --
- 3041 --
- 3042 --
- 3051 --
- 3052 --
- 3053 --
- 3054 --
- 3061 --
- 3062 --
- 3063 --
- 3064 --
- 3071 --
- 3072 --
- 3073 --
- 3074 --
- 3075 --
- 3076 --
- 3077 --
- 3078 --
- 3091 --
- 3092 --
- 3093 --
- 3094 --
- 3096 --
- 3999 --
- 7032 --
- 7051 --
- 7061 --
- 7070 --
- 7092 --
- 9012 --
- 9015 --
- 9016 --
- 9017 --
- 9040 --
- 9041 --
- 9042 --
- 9043 --
- 9052 --
- 9053 --
- 9062 --
- 9063 --
- 9064 --
- 9065 --
- 9070 --
- 9071 --
- 9072 --
- 9081 --
- 9082 --
- 9083 --
- 9093 --
- 9111 --
- 9113 --
- 9115 --
- 9117 --
- 9121 --
- 9122 --

T OTC-FLASH (FOR 1000pg TXT)



Personal Notes:



Personal Notes:



This image shows a full page of blank, lined paper. It features approximately 30 evenly spaced horizontal grey lines across its entire width, typical of notebook or legal stationery. The paper is otherwise completely empty, with no margins, text, or other markings.

8. Alignments

Index of this chapter:

- 8.1 General Alignment Conditions
- 8.2 Hardware Alignments
- 8.3 Software Alignments

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

General: The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the Cursor Up, Down, Left or Right keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 220-240 V / 50/60 Hz.
Allow the set to warm up for approximately 10 minutes.
Test probe: $R_i > 10 \text{ M}\Omega$; $C_i < 2.5 \text{ pF}$.

8.2 Hardware Alignments

There are no hardware alignments foreseen for these models.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) various settings, like white tone and tuner (IF) can be aligned.

To store the data: use the RC button Menu to switch to the main menu and next, switch to 'Stand-by' mode.

8.3.1 SAM Menu

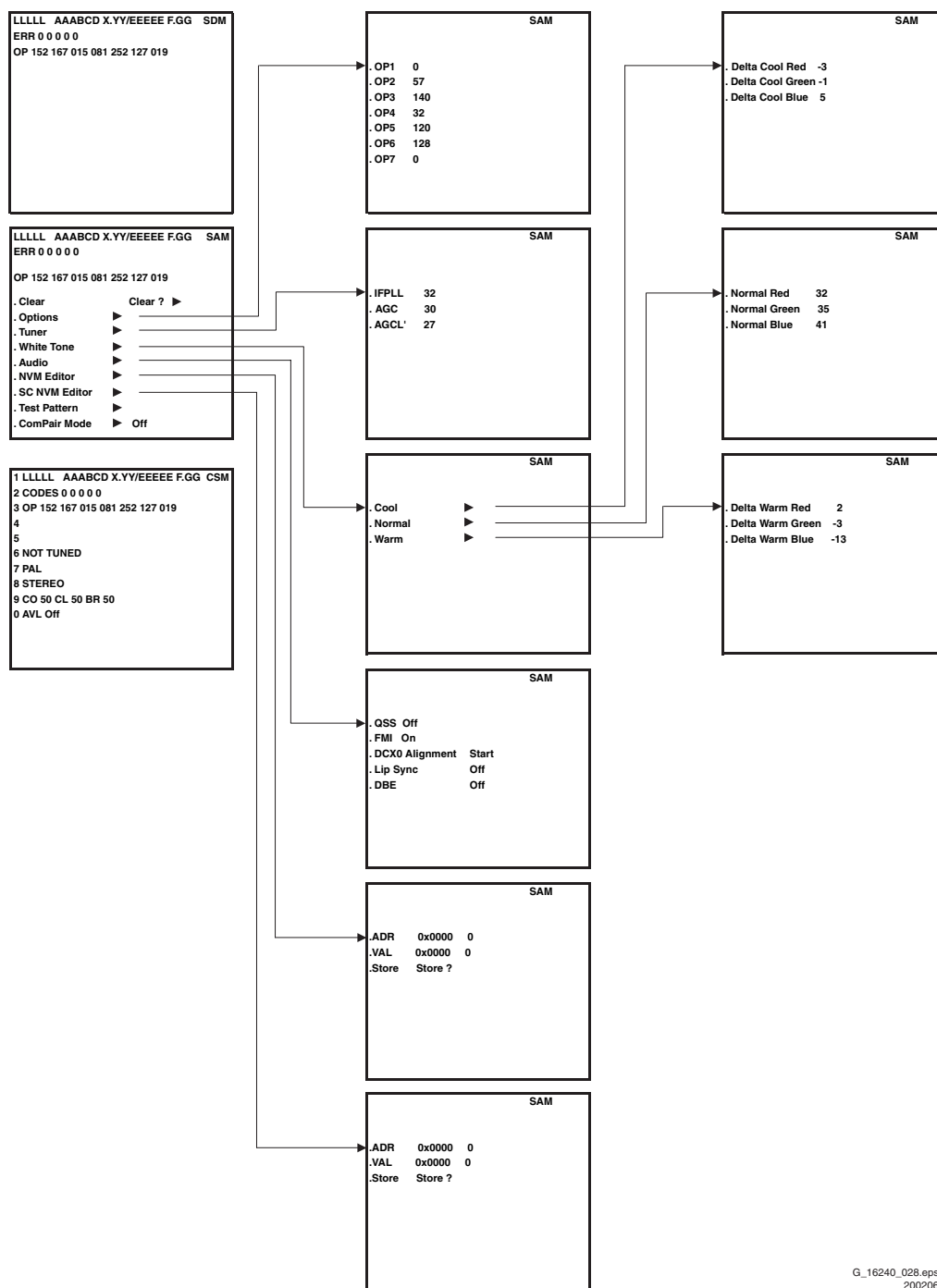
G_16240_028.eps
200206

Figure 8-1 Overview SAM menu (the values are indicative)

8.3.2 Tuner Adjustment

AGC (RF AGC Take Over Point)

- Activate the SAM menu.
- Go to the sub-menu Tuner.
- Select the AGC sub-menu.
- Adjust the AGC value to AGC = 27.
- Adjust the AGC L' value to AGC L' = 27 (Europe only).
- Adjust the IFPLL value to IFPLL = 32 (Europe only).
- Switch the set to standby to store the data.

8.3.3 DCXO (Digital Xtal Oscillator) Alignment (for NICAM sets only)

- Input a Colour bar signal with a colour subcarrier frequency of 4.43 MHz on SCART1 or SCART2.
- Select as a signal source EXT1 or AV1.
- Go to the SAM menu and select Audio.
- Activate DCXO Alignment and wait until this process has finished (DONE).
- Check if the NICAM audio reception is OK, if not: repeat the procedure.
- Switch the set to standby to store the data.

8.3.4 ADC Gain and Grey Scale Alignment

The table below shows a number of NVM settings used for each model of TV set. Be sure to use the correct editor in the SAM menu (NVM Editor or SC NVM Editor), because the first one is used for the Hercules NVM, and the second one for the SCALER (SC) part of the TV set. For further important NVM settings, see also the other NVM tables elsewhere in this manual.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 8-1 ADC gain and grey scale alignment

SDTV ADC Gain settings: Use the NVM Editor in SAM to set these values in the Hercules NVM		
Setting	Hercules NVM Address (decimal value)	42PF3321/10 42PF5321/10/12 (42PF5411/10 TBD) 42PF7321/10/12
NVM_ADC_GAIN_R	006	135
NVM_ADC_GAIN_G	007	185
NVM_ADC_GAIN_B	008	165

SDTV Greyscale settings: Use the SC NVM Editor in SAM to set these values in the Scaler NVM		
Setting	Scaler NVM Address (decimal value)	42PF3321/10 42PF5321/10/12 (42PF5411/10 TBD) 42PF7321/10/12
ADC_RED_OFFSET2	338	070
ADC_GRN_OFFSET2	339	070
ADC_BLU_OFFSET2	340	070
ADC_RED_GAIN	341	150
ADC_GRN_GAIN	343	150
ADC_BLU_GAIN	345	150
PC Greyscale settings		
Setting	Scaler NVM Address (decimal value)	42PF3321/10 42PF5321/10/12 (42PF5411/10 TBD) 42PF7321/10/12
ADC_RED_OFFSET2	325	070
ADC_GRN_OFFSET2	326	070
ADC_BLU_OFFSET2	327	070
ADC_RED_GAIN	328	240
ADC_GRN_GAIN	330	240
ADC_BLU_GAIN	332	240
HD Greyscale settings		
Setting	Scaler NVM Address (decimal value)	42PF3321/10 42PF5321/10/12 (42PF5411/10 TBD) 42PF7321/10/12
ADC_RED_OFFSET2	351	064
ADC_GRN_OFFSET2	352	075
ADC_BLU_OFFSET2	353	064
ADC_RED_GAIN	354	180
ADC_GRN_GAIN	356	180
ADC_BLU_GAIN	358	180

8.3.5 Panel Size Settings

The table below shows the NVM settings for panel selection, based on panel size and manufacturer. Use the SC NVM editor in the SAM menu to change the panel code at decimal address 320.

Caution:

- **Make sure to choose the right panel, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 8-2 Panel size settings

Option table for panel size settings		
Manufacturer	Size (inch)	Panel code (hex)
SDI-SD	42	02
LG-SD	42	03
SDI-HD	42	04
FHP-HP	42	05

8.3.6 Sound

- For NICAM sets: see paragraph 8.3.3.
- For other sets: No adjustments needed for sound.

8.3.7 Options

Options OP1...OP7 in the SAM menu can be used for quickly restoring 64 features or settings of the HERCULES part of the TV set to their original default factory values (8 groups of 8 features/settings each). When the decimal value of one option byte OP1...OP7 is changed (see the first table below) then a group of 8 bits, representing 8 HERCULES options or features, is changed as well (see the second table below for a detailed description of the features or settings that are changed). The second table shows which option byte (OP1...OP7) represents which group of 8 option bits. Each bit (0...7) switches a particular HERCULES feature or setting ON or OFF, depending on its value (1 or 0).

It is also possible to change the features or settings mentioned in the second table directly at bit level, by means of the NVM Editor in the SAM menu. In the NVM Editor, first the correct NVM address (ADR) has to be entered, then the correct value (VAL, 1 or 0) for each bit (see second table), and finally the settings have to be stored (STORE). For quickly restoring the HERCULES part of the TV set to its original factory settings, however, it is more convenient to simply enter the default factory settings OP1...OP7 that are given in the first table below. How to do this, is described in the next paragraph.

How to Change an Option Byte

As has been explained above, an Option byte (OP) represents a number of different HERCULES options. Changing these bytes directly makes it possible to set all HERCULES options very fast. All options are controlled via seven option bytes. Select the option byte (OP1.. OP7) with the Menu Up/ Down keys, and enter the new (decimal) value. For the correct Factory Default settings, see the first table below. For more detailed information, see the second table.

Leaving the Option submenu saves the changes in the Option Byte settings. Some changes will only take effect after the set has been switched “off” and “on” with the AC power switch (cold start).

Table 8-3 Option codes OP1...OP7

Option table for quickly restoring the HERCULES to its Factory Default settings			
Model number	42PF3321/10 42PF5321/10/12	42PF5411/10 (TBD)	42PF7321/10/12
OP1	152	152	152
OP2	165	165	165
OP3	47	47	111
OP4	113	113	241
OP5	252	252	252
OP6	27	27	27
OP7	19	19	19
Options (can be changed only via the SAM menu)	Total decimal value for each option per model number		

How to Change Options at Bit Level

If you wish to know which features or settings of the HERCULES are changed via OP1...OP7, or if you want to change each option or feature bit by bit, use the more detailed table below.

Note: the table below contains only part of the NVM settings that can be changed. A second range of settings and features can be found in Chapter 5 of this manual, in table NVM Default values. The settings mentioned there can only be changed via the NVM editor. For further settings, see also the table “ADC Gain and Grey scale alignment” elsewhere in this manual.

Table 8-4 Option codes in detail, at bit level

Option byte & bit table for restoring the TV set to its original Factory Default settings via the NVM Editor in the SAM menu				
Model number		42PF3321/10 42PF5321/10/12	42PF5411/10 (TBD)	42PF7321/10/12
OP1	Description of feature/option to be switched ON or OFF			
bit 7 (msb)	OP_PHILIPS_TUNER	1	1	1
bit 6	OP_FM_RADIO	0	0	0
bit 5	OP_LNA	0	0	0
bit 4	OP_ATS // for EU	1	1	1
bit 3	OP_ACI	1	1	1
bit 2	OP_UK_PNP	0	0	0
bit 1	OP_VIRGIN_MODE	0	0	0
bit 0 (lsb)	OP_CHINA	0	0	0
	Total DEC Value	152	152	152
	Total HEX Value	98	98	98
OP2				
bit 7 (msb)	OP_HDMI-X2	1	1	1
bit 6	OP_IBEX (for DVB)	0	0	0
bit 5	OP_CHANNEL_NAMING	1	1	1
bit 4	OP_LTI (Lum Transcient Improvmt)	0	0	0
bit 3	OP_TILT	0	0	0
bit 2	OP_FINE_TUNING	1	1	1
bit 1	OP_BACKLIGHT_DIMMING (for Malibu only)	0	0	0
bit 0 (lsb)	OP_HUE	1	1	1
	Total DEC Value	165	165	165
	Total HEX Value	A5	A5	A5
OP3				
bit 7 (msb)	OP_EW_FUNCTION	0	0	0
bit 6	OP_PIXEL_PLUS (for Option A)	0	0	1
bit 5	OP_SCL_RECOVERY	1	1	1
bit 4	OP_SPLITTER // temp	0	0	0
bit 3	OP_VIRTUAL_DOLBY	1	1	1
bit 2	OP_WIDE_SCREEN	1	1	1
bit 1	OP_WSSB	1	1	1
bit 0 (lsb)	OP_OP_ME5 // OP_ME5 - 5/6 local buttons implementation	1	1	1
	Total DEC Value	47	47	111
	Total HEX Value	2F	2F	6F
OP4				
bit 7 (msb)	OP_LIP_SYNC (for PDP only)	0	0	1
bit 6	OP_HD	1	1	1
bit 5	OP_1000P_TEXT	1	1	1
bit 4	OP_DELTA_VOLUME	1	1	1
bit 3	OP_TAIWAN_KOREA	0	0	0
bit 2	OP_VOLUME_LIMITER	0	0	0
bit 1	OP_STEREO_DBX	0	0	0
bit 0 (lsb)	OP_STEREO_NICAM_2CS	1	1	1
	Total DEC Value	113	113	241
	Total HEX Value	71	71	F1
OP5				
bit 7 (msb)	OP_AV1	1	1	1
bit 6	OP_AV2	1	1	1
bit 5	OP_AV3	1	1	1
bit 4	OP_CVI	1	1	1
bit 3	OP_SVHS2	1	1	1
bit 2	OP_SVHS3	1	1	1
bit 1	OP_HOTEL_MODE	0	0	0
bit 0 (lsb)	OP_SIMPLE_FACTORY=OP_BTSC_AVSTEREO	0	0	0
	Total DEC Value	252	252	252
	Total HEX Value	FC	FC	FC
OP6				
bit 7 (msb)	OP_PERSONAL_ZAPPING	0	0	0
bit 6	OP_SMART_SURF	0	0	0
bit 5	OP_FMTRAP	0	0	0
bit 4	OP_COMBFILTER	1	1	1
bit 3	OP_ACTIVE_CONTROL	1	1	1
bit 2	OP_VIDEO_TEXT	0	0	0
bit 1	OP_LIGHT_SENSOR	1	1	1
bit 0 (lsb)	OP_TWIN_TEXT	1	1	1
	Total DEC Value	27	27	27
	Total HEX Value	1B	1B	1B
OP7				
bit 7 (msb)	OP_TIME_WIN1	0	0	0
bit 6	OP_DVB_USB = OP_MALAY	0	0	0

Option byte & bit table for restoring the TV set to its original Factory Default settings via the NVM Editor in the SAM menu				
Model number		42PF3321/10 42PF5321/10/12	42PF5411/10 (TBD)	42PF7321/10/12
bit 5	OP_AMBLIGHT	0	0	0
bit 4	OP_COLUMBUS	1	1	1
bit 3	OP_DUMMY6	0	0	0
bit 2	OP_DUMMY7	0	0	0
bit 1	OP_WEST_EU	1	1	1
bit 0 (lsb)	OP_MULTI_STANDARD_EUR	1	1	1
Total DEC Value		19	19	19
Total HEX Value		13	13	13

9.3 Power Supply Unit

9.3.1 Description

The power supply is a bought module, that consists of the following parts:

- the AC mains input with fuse;
- a separate stand-by supply;
- the mains harmonic circuit;
- the mains rectifier.

The power supply provides the following output voltages:

- 3.3V for the UOCIII, Scaler and other digital circuits;
- unregulated 12V, which is converted to regulated 5V, 8V, and 12V;
- a so-called bolt-on supply, which provides 12V for bolt-on devices (not covered in this manual).

9.3.2 States and Sub-states of the Power Supply

The power supply has three different states. Each of these states has a couple of sub-states:

1. POWER OFF:
 - a. PASSIVE OFF:
The set is switched off completely, the mains cable is disconnected. When the mains is re-connected, the set switches to the last STAND-BY status.
 - b. ACTIVE OFF:
The set is connected to the mains, and consuming a minimum amount of power. This sub-state is similar to NORMAL STAND-BY, but all LED indicators are off. Switch to the ON or STAND-BY mode with the POWER ON/OFF button (in the NAFTA region also with the STAND-BY KEY of the RC).
2. STAND-BY:
 - a. NORMAL STAND-BY:
Only Hercules and NVM are connected to the power (+3V3STBY), other circuits are disconnected. The LED lights red. The signal from a control port can switch the set OFF or ON.
 - b. SEMI STAND-BY:
Only on DVB sets. In this state the LED lights red. +3V3STBY, +12VUNREG, and +12V iBOZ remain ON for a certain time. After that time only +3V3STBY stays ON, only powering Hercules and NVM, so the set is in NORMAL STAND-BY.
3. POWER ON:
This is the normal operating mode. All power supply lines are available. All circuits are active. From this mode the set can switch to NORMAL STAND-BY, SEMI STAND-BY, OFF, or PROTECTION.

9.4 Abbreviation List

0/6/12	SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16:9 format, 12 = play 4:3 format
1080i	1080 visible lines, interlaced
1080p	1080 visible lines, progressive scan
2CS	2 Carrier Sound (or 2 Channel Stereo)
480i	480 visible lines, interlaced
480p	480 visible lines, progressive scan
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control; Control signal used to tune and lock to the correct frequency
AGC	Automatic gain control (feedback) signal to the tuner. This circuit ensures a constant output amplitude regardless of the input amplitude
AM	Amplitude Modulation; A "data encoding to a carrier" method, such that the carrier amplitude is proportional to the data value
AP or A/P	Asia Pacific
AR	Aspect Ratio: 4 by 3 or 16 by 9
ASD	Automatic Standard Detection
AV	External Audio Video
B-SC1-IN	Blue SCART1/EXT1 in
B-SC2-IN	Blue SCART2/EXT2 in
B-TXT	Blue TeleteXT
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band
C-FRONT	Chrominance front input
CBA	Circuit Board Assembly (also called PCB or PWB)
CL	Constant Level: audio output to connect with an external amplifier
CLUT	Colour Look-Up Table
COFDM	Coded Orthogonal Frequency Division Multiplexing: a multiplexing technique, that distributes the data to be transmitted, over many carriers
COLUMBUS	COLour LUMinance Baseband Universal Subsystem. IC performing noise reduction and 2D/3D comb filtering
ComPair	Computer aided rePair. A tool for diagnosing a TV through a PC controlled interface
CSM	Customer Service Mode
CVBS	Composite Video and Blanking Signal; A single video signal that contains luminance, colour, and timing information
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DFU	Directions For Use: Owner's manual
DMMI	Digital Multi Media Interface
DNR	Dynamic Noise Reduction / Digital Noise Reduction; Noise reduction feature of the set
DRAM	Dynamic RAM; dynamically refreshed RAM
DSP	Digital Signal Processing
DST	Dealer Service Tool; Special remote control designed for dealers to enter e.g. service mode (a DST-emulator is available in ComPair)

EEPROM	Electrically Erasable and Programmable Read Only Memory	NICAM	Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTVView)	NTSC	National Television Standard Committee. Colour system used mainly in North America and Japan.
EU	Europe		Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
EXT	EXTERNAL (source), entering the set by SCART or by cinches (jacks)		Non Volatile Memory; IC containing data such as alignment values, preset stations
FBL	Fast BLanking; DC signal accompanying RGB signals. To blank the video signal when it is returning from the right side of the screen to the left side. The video level is brought down below the black video level	NVM	Open Circuit
FM	Field Memory; A memory chip that is capable of storing one or more TV picture fields / Frequency Modulation; A technique that sends data as frequency variations of a carrier signal	O/C	On/Off control signal for the LED
FRC	Frame Rate Converter	ON/OFF LED	On Screen Display
H	H_sync to the module	OSD	On Screen Display
HA	Horizontal Acquisition; horizontal sync pulse	PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
HD	High Definition	PC	Personal Computer
HDMI	High Definition Multimedia Interface	PCB	Printed Circuit Board (or PWB)
HP	HeadPhone	PIP	Picture In Picture
I	Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band	PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency
I ² C	Integrated IC bus		Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
I ² S	Integrated IC Sound bus	Progressive Scan	
IBO	Intelligent Bolt-On module		
IC	Integrated Circuit		
IF	Intermediate Frequency	PWB	Printed Wiring Board (also called PCB or CBA)
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.	RAM	Random Access Memory
IR	Infra Red	RC	Remote Control transmitter
IRQ	Interrupt ReQuest	RC5 or 6	Remote Control system 5 or 6, the signal from the remote control receiver
Last Status	The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences	RGB	Red, Green, and Blue colour space; The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced
LATAM	LATin AMERICA	RGBHV	Red, Green, Blue, Horizontal sync, and Vertical sync
LC04	Philips chassis name for LCD (and Plasma) TV 2004 project	ROM	Read Only Memory
LCD	Liquid Crystal Display	SAM	Service Alignment Mode
LED	Light Emitting Diode; A semiconductor diode that emits light when a current is passed through it	S/C	Short Circuit
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I	SCART	Syndicat des Constructeurs d'Appareils Radiorécepteurs et Téléviseurs; This is a 21-pin connector used in EU, that carries various audio, video, and control signals (it is also called Péritel connector)
LS	LoudSpeaker	SCL	Serial CLock Signal on I ² C bus
LVDS	Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication.	SD	Standard Definition
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz	SDA	Serial DATA Signal on I ² C bus
MOSFET	Metal Oxide Semiconductor Field Effect Transistor	SDRAM	Synchronous DRAM
MPEG	Motion Pictures Experts Group. An ISO/IEC body that has given its name to an image compressing scheme for moving video	SECAM	SÉquence Couleur Avec Mémoire; Colour system mainly used in France and East Europe. The chroma is FM modulated and the R-Y and B-Y signals are transmitted line sequentially. Colour carriers= 4.406250 MHz and 4.250000 MHz
MSP	Multi-standard Sound Processor: ITT sound decoder	SIF	Sound Intermediate Frequency
MUTE	MUTE Line	SMPS	Switched Mode Power Supply
NC	Not Connected	SND	SoUND
		SOPS	Self Oscillating Power Supply
		SRAM	Static RAM
		STBY	STandBY
		SVHS	Super Video Home System
		SW	Software or Subwoofer or Switch
		THD	Total Harmonic Distortion

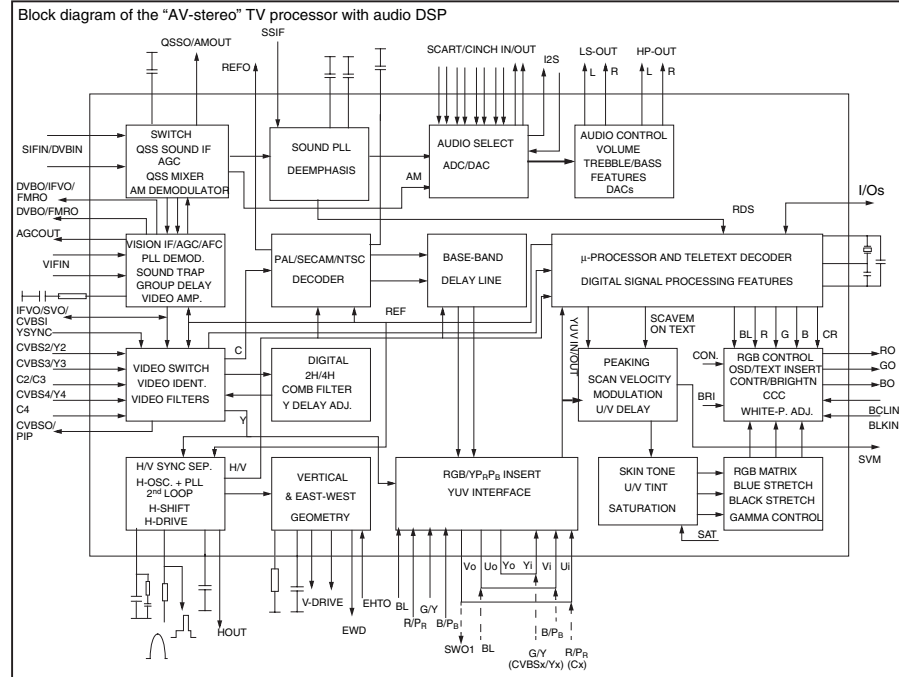
TXT	Teletext; TXT is a digital addition to analogue TV signals that contain textual and graphical information (25 rows x 40 columns). The information is transmitted within the first 25 lines during the Vertical Blank Interval (VBI)
uP	Microprocessor
UOC	Ultimate One Chip, or Hercules
VA	Vertical Acquisition
VL	Variable Level out: processed audio output towards external amplifier
VCR	Video Cassette Recorder
VGA	Video Graphics Array; 640x480 (4:3)
WD	Watch Dog
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XTAL	Quartz crystal
Y	Luminance signal
Y/C	Y consists of luminance signal, blanking level and sync; C consists of chroma (colour) signal
YPbPr	This is a scaled version of the YUV colour space. Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV
YUV	Colour space used by the NTSC and PAL video systems. Y is the luminance and U/V are the colour difference signals

9.5 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.5.1 Diagram B2, Type TDA15021H (IC7217, Hercules)

Block Diagram



Pin Configuration

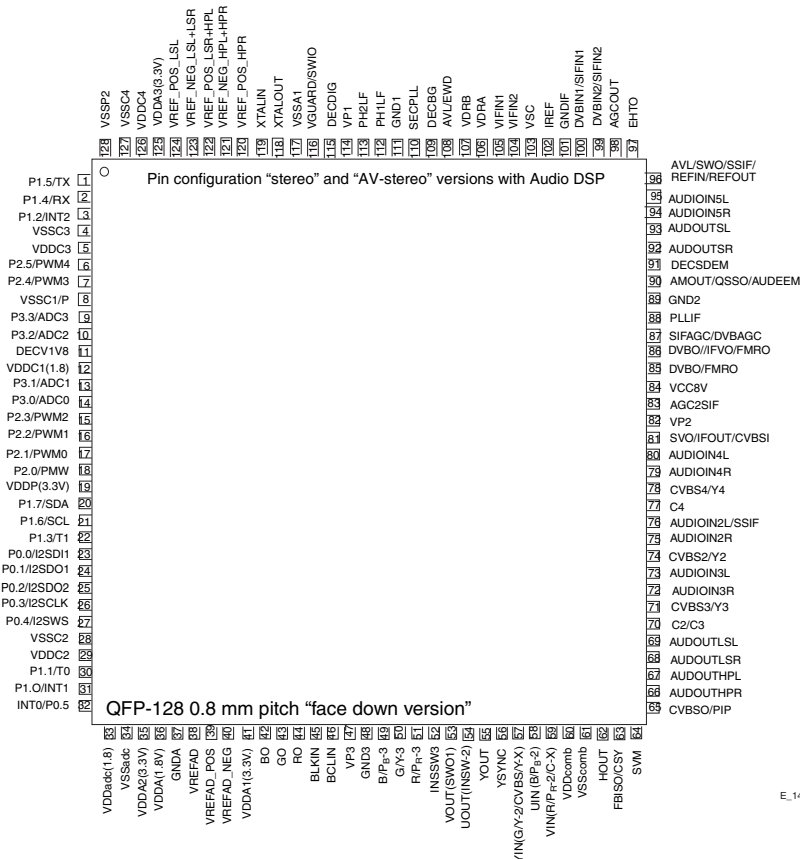


Figure 9-3 Internal block diagram and pin configuration

9.5.2 Diagram B19, Type T6TU5XB (IC7M00, Columbus)

Figure 1 Package outline (top view)

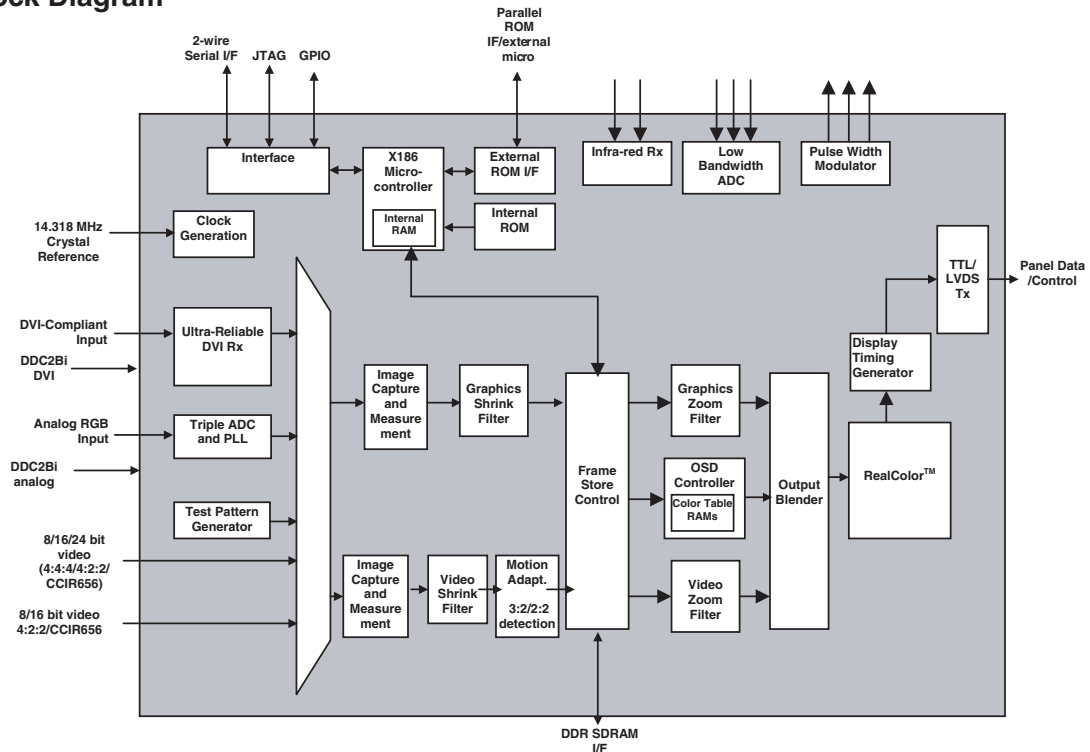
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
A	WEB/ DAVB	UVA0 /Di0	UVA2 /Di2	UVA4 /Di4	UVA6 /Di6	UVA8 /Di8	SEL656	TST1	YA2	YA4	YA6	YA8	VA	HREF	SDA	A
B	YB8	VSS	UVA1 /Di1	UVA3 /Di3	UVA5 /Di5	UVA7 /Di7	YA0 /Di9	BISTEN	YA1	YA3	YA5	YA7	WEA/ DAVA	VSS	SCL	B
C	YB7	YB6	VSS	VDDS	VSS	VSS	VDDC	VDDC	VSS	VSS	VDDC	VDDS	VSS	SNDA	SNRST	C
D	YB5	YB4	VDDC	N.C.	COLUMBUS TOP-VIEW PPA Version 2.7								VSS	SNCL	TCK	D
E	YB3	YB2	VSS	VDDC									TMS	TDO	E	
F	TST2	YB1	VSS	VSS									TRST	TDI	F	
G	CLKASB	YB0 /Do9	VDDS	VDDS									A0ICC	RESET	G	
H	CLKASA	UVB8/ Do8	TST3	VDDC									CLK EXT	CLKSEL	H	
J	UVB7 /Do7	UVB6/ Do6	VSS	VSS									CLK	WEN	J	
K	UVB5 /Do5	UVB4/ Do4	VDDC	VSS									CASN	RASN	K	
L	UVB3 /Do3	UVB2 /Do2	VSS	VDDS									DQM	DQ16	L	
M	UVB1 /Do1	UVB0 /Do0	VDDS	VSS									DQ14	DQ15	M	
N	AVD	N.C.	VDDS	VSS	VSS	VDDC	VSS	VDDS	VDDC	VSS	VDDS	VSS	VSS	VDDS	DQ13	N
P	AVS	VSS	A7	A9	A2	A0	A11	DQ7	DQ6	DQ4	DQ3	DQ1	VDDS	VSS	DQ12	P
R	A4	A5	A6	A8	A3	A1	A10	DQ8	VSS	DQ5	VSS	DQ2	DQ9	DQ10	DQ11	R
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

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200804

Figure 9-4 Pin configuration

9.5.3 Diagram B7+B8+B9, Type GM1501 (IC7801, Genesis)

Block Diagram



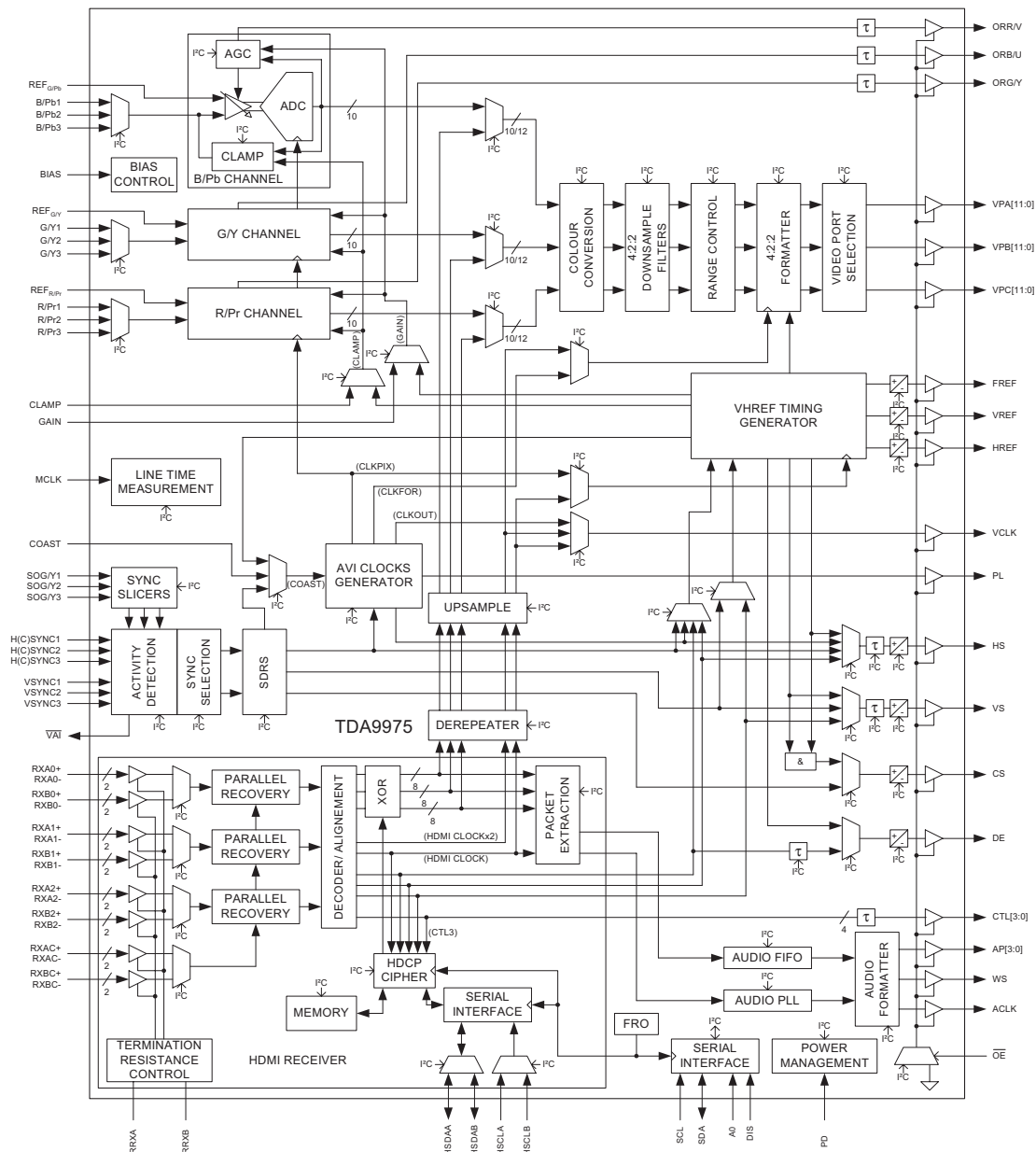
Pin Configuration

A	NC	ADC_3.3	ADC_1.8	ADC_1.8	ADC_DGND	RXC+	DVI_GND	RX0+	RX1+	RX2+	DVI_GND	LBADC_N3	D_GND
B	BLUE-	BLUE+	ADC_3.3	ADC_DGND	DVI_GND	RXC-	DVI_GND	RX0-	RX1-	RX2-	REXT	LBADC_N2	D_GND
C	GREEN-	GREEN+	SOG	ADC_AGND	NC	DVI_3.3	DVI_GND	DVI_3.3	DVI_3.3	DVI_3.3	DVI_3.3	LBADC_N1	LBADC_33
D	RED-	RED+	ADC_3.3	ADC_AGND	NC	DVI_1.8	DVI_GND	DVI_1.8	DVI_1.8	DVI_1.8	DVI_GND	LBADC_RETURN	LBADC_GND
E	ADC_AGND	ADC_AGND	ADC_3.3	ADC_AGND									
F	NC	VDD33_PLL	VSSA33_RPLL	VDDA33_RPLL									
G	VDDA33_FPLL	VSSD33_PLL	TCLK	XTAL									
H	VDD33_SDDS	VSSA33_SDDS	VDDA33_SDDS	VSSA33_FPLL									
J	VDD33_DDSD	VSSA33_DDSD	VDDA33_DDSD	VSSD33_DDSD									
K	RESETn	ACS_RSET_HD	NC	VSSD33_DDSD						CORE_1.8	CORE_1.8	D_GND	D_GND
L	OCM_INT2	OCM_INT1	AVSYNC	AHSYNC						D_GND	CORE_1.8	D_GND	D_GND
M	OCM_UD0	OCM_UD1	IR0	IR1						D_GND	D_GND	D_GND	D_GND
N	VGA_SDA	VGA_SCL	DVI_SDA	DVI_SCL						D_GND	D_GND	D_GND	D_GND
P	OCM_CS1n	OCM_CS2n	MSTR_SDA	MSTR_SCL						D_GND	D_GND	D_GND	D_GND
R	ROM_CSn	OCM_ReEn	OCM_WEEn	EXTCLK						D_GND	D_GND	D_GND	D_GND
T	OCMADDR_17	OCMADDR_18	OCMADDR_19	OCM_CS0n						D_GND	CORE_1.8	D_GND	D_GND
U	OCMADDR_13	OCMADDR_14	OCMADDR_15	OCMADDR_16						CORE_1.8	CORE_1.8	D_GND	D_GND
V	OCMADDR_9	OCMADDR_10	OCMADDR_11	OCMADDR_12									
W	OCMADDR_6	OCMADDR_7	OCMADDR_8	IO_3.3									
Y	OCMADDR_3	OCMADDR_4	OCMADDR_5	IO_3.3									
AA	OCMADDR_0	OCMADDR_1	OCMADDR_2	IO_3.3									
AB	OCMDATA13	OCMDATA14	OCMDATA15	IO_3.3									
AC	OCMDATA10	OCMDATA11	OCMDATA12	IO_3.3	GPIO_G08_B2 (DEGRN0)	IO_3.3	DCLK	IO_3.3	GPIO_G07_B2 (DERED4)	IO_3.3	SHIELD[1] (DEGRN3)	LVDSB_3.3	LVDSB_GND
AD	OCMDATA9	OCMDATA6	OCMDATA3	OCMDATA0	GPIO_G09_B3 (DEGRN1)	GPIO_G08_B0 (DORED0)	DEN	GPIO_G08_B3 (DOBLU1)	GPIO_G07_B3 (DERED5)	GPIO_G07_B6 (DERED8)	SHIELD[2] (DEGRN4)	LVDSB_3.3	LVDSB_3.3
AE	OCMDATA8	OCMDATA5	OCMDATA2		GPIO_G09_B0 (DERED0)	GPIO_G08_B4 (DEBLU0)	GPIO_G08_B1 (DORED1)	GPIO_G08_B3 (DOGRN1)	GPIO_G07_B0 (DERED2)	GPIO_G07_B4 (DERED6)	GPIO_G07_B7 (DERED9)	SHIELD[3] (DEGRN5)	BC+ (DEGRN8)
AF	OCMDATA7	OCMDATA4	OCMDATA1		GPIO_G09_B1 (DERED1)	GPIO_G08_B5 (DOGRN0)	GPIO_G08_B2 (DOBLU1)	GPIO_G07_B1 (DERED3)	GPIO_G07_B5 (DERED7)	SHIELD[0] (DEGRN2)	B3+ (DEGRN6)	B3- (DEGRN7)	BC- (DEGRN9)
	1	2	3	4	5	6	7	8	9	10	11	12	13

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Figure 9-5 Internal block diagram and pin configuration

Block Diagram



Pin Configuration

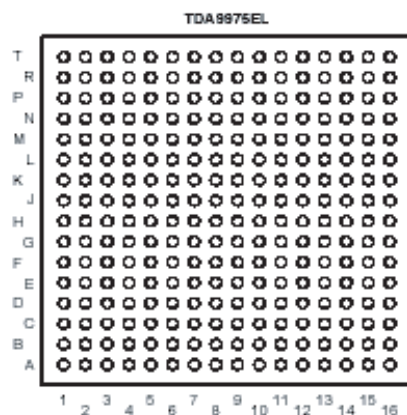


Figure 9-6 Internal block diagram and pin configuration

10. Spare Parts List

CTN's processed		
	42PF5321/10	
	42PF5321/12	
	42PF7321/12	
Set Level		
Various		
1099▲	9322 232 75682	PDP 42V7K462
1099▲	9322 233 80682	PDP S42AX-YD01
1112	3104 328 39571	LED panel
1174	3139 267 22281	Audio Amp assy 42-50
8152	3104 311 09921	Cable 9p/680/9p
8302	3104 311 03601	Cable 7p/400/7p
8302	3104 311 07241	Cable 7p/1000/7p
8870	3104 311 07181	Cable 6p/820/6p Wh
8870	3104 311 07421	Cable 6p/680/6p
8900	3104 311 07911	Cable ring/180/ring
8P06	3104 311 08831	Cable 31p/300/31p
8P06	3104 311 10492	Cable 31P/220/31P
PDP FHP Supply Panel [A]		
Various		
0308	2422 025 16269	Connector 2p m
0309	2422 015 18552	Connector 1P m
0311	2422 025 10769	Connector 9p m
0323	2422 025 15085	Connector 10p m
1002	2422 025 09407	Connector 7p m
1004	2422 086 00676	Fuse 2A T 250V
1082	2422 086 00677	Fuse 2.5A T 250V
1083	2422 086 00677	Fuse 2.5A T 250V
1084	2422 086 10849	Fuse 1A F 250V
1110	2422 086 00678	Fuse 5A T 250V
1200	2422 086 00676	Fuse 2A T 250V
1260	2422 086 10588	Fuse 2A T 65V
1400	2422 086 00806	Fuse 6.3A HT 250V
1402	2422 549 42349	Surge Prot. DSP501N
1450	2422 132 07357	Relay 1p 9V 10/80A
1460	2422 132 07357	Relay 1p 9V 10/80A
1M03	2422 025 10771	Connector 10p m
1M05	2422 025 16374	Connector 2p m
1M10	2422 025 09406	Connector 4p m
1M46	2422 025 10655	Connector 11p m
— —		
2000	2022 554 04155	470pF 20% 250V
2001	2222 338 22474	470nF 20% 275V
2005	2238 867 18101	100pF 1% 50V 0603
2006	3198 035 01020	1nF X7R 50V 0402
2007	3198 017 31040	100nF 20% 50V 0603
2008	3198 017 31030	10nF 20% 50V 0603
2009	3198 030 82280	2.2µF 20% 50V
2010	3198 017 31030	10nF 20% 50V 0603
2011	2222 375 90158	15nF 5% 1.6kV
2012	3198 019 73310	330pF 10% 2.5kV
2013	3198 019 73310	330pF 10% 2.5kV
2014	3198 019 71520	1.5nF 2kV
2015	3198 017 31030	10nF 20% 50V 0603
2016	3198 030 82280	2.2µF 20% 50V
2017	2222 375 90158	15nF 5% 1.6kV
2018	2238 867 18101	100pF 1% 50V 0603
2019	2022 554 04155	470pF 20% 250V
2020	2020 024 90737	3300µF 20% 100V
2021	2020 024 90737	3300µF 20% 100V
2022	3198 038 51020	1000F 20% 50V
2023	2222 580 15649	100nF 10% 50V 0805
2024	3198 035 03320	3.3nF 5% 50V 0402
2025	3198 030 81080	1F 20% 50V
2026	3198 035 02220	2.2nF 50V 0402
2027	2020 552 96631	15nF 10% 16V 0402
2028	2238 930 11541	220pF 5% 200V
2029	2238 930 11541	220pF 5% 200V
2030	3198 017 31040	100nF 20% 50V 0603
2031	3198 035 21030	10nF 16V 0402
2032	2238 586 15641	22nF 10% 50V 0603
2033	3198 017 31040	100nF 20% 50V 0603
2034	2020 558 90511	47pF 5% 1kV
2035	3198 035 01020	1nF X7R 50V 0402
2036	2238 586 15641	22nF 10% 50V 0603
2037	2020 558 90511	47pF 5% 1kV
2038	3198 035 01020	1nF X7R 50V 0402
2039	3198 035 02220	2.2nF 50V 0402
2040	3198 034 02790	47pF 1% 50V 0402
2041	3198 034 01010	100pF 50V 0402
2042	3198 035 03310	330pF 5% 50V 0402
2043	3198 030 81080	1F 20% 50V
2044	2238 930 11541	220pF 5% 200V
2045	2238 930 11541	220pF 5% 200V
2046	2252 568 08305	33pF 5% 500V
2047	3198 017 31040	100nF 20% 50V 0603
2048	2020 552 96683	220nF 10% 50V
2049	2238 867 18101	100pF 1% 50V 0603
2050	2238 586 15641	22nF 10% 50V 0603
2051	3198 017 01030	10nF 50V X7R 0805
2052	3198 026 41020	1000F 20% 35V
2053	3198 030 72290	22µF 20% 35V
2054	2020 552 00216	220pF 5% 50V 0402
2054	2020 552 00234	220pF 5% 50V
2055	3198 035 01520	1.5nF 50V 0402
2056	2020 552 00216	220pF 5% 50V 0402
2056	2020 552 00234	220pF 5% 50V
2057	3198 035 01520	1.5nF 50V 0402
2058	2020 012 93279	1F 20% 250V
2059	3198 017 31040	100nF 20% 50V 0603
2060	2020 552 96683	220nF 10% 50V
2061	3198 017 31040	100nF 20% 50V 0603
2062	3198 030 82280	2.2µF 20% 50V
2070	3198 035 01020	1nF X7R 50V 0402
2071	3198 035 01020	1nF X7R 50V 0402
2090	3198 030 74780	4u7 20% 35V
2112	3198 035 01020	1nF X7R 50V 0402
2113	3198 025 32210	220µF 20% 25V
2114	2020 552 96683	220nF 10% 50V
2117	2222 780 15656	330nF 10% 16V
2118	3198 019 61020	1nF 10% 1kV
2121	2020 024 90736	2200µF 20% 100V
2122	2222 365 75105	1F 10% 63V
2123	3198 035 03320	3.3nF 5% 50V 0402
2126	3198 017 31040	100nF 20% 50V 0603
2133	3198 025 52290	22µF 20% 50V
2203	3198 017 31040	100nF 20% 50V 0603
2205	3198 030 74780	4u7 20% 35V
2210	3198 030 44790	47µF 20% 16V SMD
2211	3198 035 04710	470pF 50V 0402
2212	2020 552 95419	220nF 10% 16V
2212	2020 552 96326	220nF 10% 16V
2212	2238 780 15654	220nF 10% 16V 0805
2213	3198 035 03320	3.3nF 5% 50V 0402
2214	3198 035 03320	3.3nF 5% 50V 0402
2215	3198 035 04710	470pF 50V 0402
2217	2222 780 15656	330nF 10% 16V
2218	2222 375 90141	3.3nF 1.6kV 5%
2222	3198 034 01010	100pF 50V 0402
2223	3198 034 01010	100pF 50V 0402
2225	2020 021 91551	2200µF 20% 25V
2226	3198 017 31040	100nF 20% 50V 0603
2227	3198 034 01010	100pF 50V 0402
2229	2020 021 00036	470µF 20% 16V
2230	2020 021 00036	470µF 20% 16V
2231	3198 030 44790	47µF 20% 16V SMD
2232	3198 034 01010	100pF 50V 0402
2234	2020 552 96448	1µF 10% 16V 0805
2234	2222 780 15663	1µF 10% 0805
2236	3198 030 41090	10µF 20% 16V
2237	3198 030 41090	10µF 20% 16V
2261	3198 026 51020	1000µF 50V
2263	2222 861 15272	2.7nF 5% 50V 0805
2264	2222 780 15658	470nF 10% 16V
2265	3198 035 03310	330pF 5% 50V 0402
2266	3198 030 74780	4u7 20% 35V
2267	3198 016 01010	100pF 10% 50V 0805
2268	2020 552 96683	220nF 10% 50V
2269	3198 026 22220	2200µF 20% 16V
2270	3198 025 34790	47µF 20% 25V
2273	3198 017 31040	100nF 20% 50V 0603
2274	3198 035 21030	10nF 16V 0402
2290	3198 017 31030	10nF 20% 50V 0603
2291	3198 035 04710	470pF 50V 0402
2292	3198 026 51020	1000µF 50V
2293	3198 035 04710	470pF 50V 0402
2294	3198 026 51020	1000µF 50V
2295	3198 035 04710	470pF 50V 0402
2296	3198 035 04710	470pF 50V 0402
2304	3198 035 01020	1nF X7R 50V 0402
2305	3198 017 31040	100nF 20% 50V 0603
2306	3198 017 31040	100nF 20% 50V 0603
2322	3198 017 31040	100nF 20% 50V 0603
2324	3198 017 31040	100nF 20% 50V 0603
2343	3198 030 82280	2.2µF 20% 50V
2350	3198 030 41010	100µF 20% 16V
2352	3198 017 31040	100nF 20% 50V 0603
2364	3198 017 31040	100nF 20% 50V 0603
2376	3198 017 31040	100nF 20% 50V 0603
2377	3198 017 31040	100nF 20% 50V 0603
2381	3198 017 31040	100nF 20% 50V 0603
2385	3198 035 21030	10nF 16V 0402
2386	3198 035 21030	10nF 16V 0402
2387	3198 030 41010	100µF 20% 16V
2388	3198 035 21030	10nF 16V 0402
2389	3198 035 01020	1nF X7R 50V 0402
2390	3198 035 01020	1nF X7R 50V 0402
2397	3198 030 41010	100µF 20% 16V
2398	3198 030 41090	10µF 20% 16V
2400	2222 338 22474	470nF 20% 275V
2401	2222 338 22474	470nF 20% 275V
2404	2020 558 90511	47pF 5% 1kV
2405	2022 554 04155	470pF 20% 250V
2406	2020 558 90511	47pF 5% 1kV
2407	2022 554 04155	470pF 20% 250V
2465	3198 030 41010	100µF 20% 16V
2502	3198 034 01010	100pF 50V 0402
2503	2020 024 90708	47µF 400V 20%
2504	3198 035 01020	1nF X7R 50V 0402
2505	3198 026 51020	1000µF 50V
2507	3198 034 01010	100pF 50V 0402
2508	3198 030 41010	100µF 20% 16V
2509	3198 034 01010	100pF 50V 0402
2510	2020 021 91506	1000µF 20% 16V
2511	3198 017 31040	100nF 20% 50V 0603
2512	3198 017 31040	100nF 20% 50V 0603
2513	2222 580 15649	100nF 10% 50V 0805
2532	3198 030 41010	100µF 20% 16V
2533	3198 030 41010	100µF 20% 16V
2534	2020 552 96448	1µF 10% 16V 0805
2534	2222 780 15663	1µF 10% 0805
2540	3198 030 41010	100µF 20% 16V
2541	3198 030 41010	100µF 20% 16V
2542	3198 017 31040	100nF 20% 50V 0603
2600	3198 019 51020	1nF 1.5kV
2601	3198 019 51020	1nF 1.5kV
2602	3198 035 02220	2.2nF 50V 0402
2603	2222 383 90136	1µF 5% 400V
2605	2222 383 90136	1µF 5% 400V
2608	3198 035 01020	1nF X7R 50V 0402
2610	2222 375 90237	1.8nF 5% 2kV
2611	3198 019 72210	220pF 10% 2kV
2612	3198 035 01020	1nF X7R 50V 0402
2614	3198 035 02220	2.2nF 50V 0402
2616	2020 024 90706	220F 20% 400V
2617	2020 024 90706	220F 20% 400V
2640	3198 035 04710	470pF 50V 0402
2642	3198 035 01020	1nF X7R 50V 0402
2651	3198 035 21030	10nF 16V 0402
2653	3198 035 06810	680pF 5% 50V 0402
2654	3198 030 44790	47µF 20% 16V SMD
2655	2020 552 96448	1µF 10% 16V 0805
2655	2222 780 15663	1µF 10% 0805
2656	2222 580 15649	100nF 10% 50V 0805
2660	3198 016 34710	470pF 10% 50V 0603
2661	3198 035 01020	1nF X7R 50V 0402
2662	3198 026 31020	1000µF 20% 25V
2663	3198 014 01050	1F 10% 50V
2664	3198 025 51010	100µF 20% 50V
2665	3198 016 34710	470pF 10% 50V 0603
2666	2020 552 96793	4.7nF 10% 50V 0402
2670	3198 017 31040	100nF 20% 50V 0603
2671	3198 017 31040	100nF 20% 50V 0603
2672	2222 580 15649	100nF 10% 50V 0805
2673	2020 558 00005	10nF 10% 630V 1206
2673	2020 558 90621	10nF 630V
2674	2020 558 00005	10nF 10% 630V 1206
2675	2020 558 90621	10nF 630V
2676	2020 558 00005	10nF 10% 630V 1206
2677	2020 558 90621	10nF 630V
2677	3198 035 02220	2.2nF 50V 0402
2690	3198 035 01020	1nF X7R 50V 0402
—W—		
3001	3198 021 34710	470Ω 5% 0603
3002	3198 021 34710	470Ω 5% 0603
3003	3198 031 01040	100kΩ 5% 0402
3004	3198 031 01530	15kΩ 5% 0.01W 0402
3005	3198 031 02730	27kΩ 5% 0402
3006	3198 031 01030	10kΩ 5% 0402
3007	3198 031 04720	4.7kΩ 5% 0402

3008	3198 021 31020	1kΩ 5% 0.062W 0603	3103	2322 706 71002	1kΩ 1% 0402	3341	3198 031 01030	10kΩ 5% 0402
3009	3198 021 31020	1kΩ 5% 0.062W 0603	3104	2322 706 71002	1kΩ 1% 0402	3342	3198 021 31030	10kΩ 5% 0.062W 0603
3010	3198 031 01530	15kΩ 5% 0.01W 0402	3106	3198 021 52720	2.7kΩ 5% 0805	3343	3198 021 31020	1kΩ 5% 0.062W 0603
3011	3198 021 35610	560kΩ 5% 0.062W 0603	3107	3198 021 52720	2.7kΩ 5% 0805	3344	3198 021 31020	1kΩ 5% 0.062W 0603
3012	3198 031 04720	4.7kΩ 5% 0402	3108	3198 021 52720	2.7kΩ 5% 0805	3345	3198 031 01020	1kΩ 5% 0402
3013	3198 031 01030	10kΩ 5% 0402	3109	3198 021 52720	2.7kΩ 5% 0805	3346	3198 031 01020	1kΩ 5% 0402
3014	3198 039 33090	33Ω 1%	3110	3198 031 01020	1kΩ 5% 0402	3347	3198 021 33310	330Ω 5% 0.062W 0603
3015	3198 039 10090	10Ω 1%	3112	3198 021 31020	1kΩ 5% 0.062W 0603	3348	3198 021 33310	330Ω 5% 0.062W 0603
3016	3198 021 51020	1kΩ 5% 0805	3113	3198 031 04740	470kΩ 5% 0402	3349	3198 021 31020	1kΩ 5% 0.062W 0603
3017	3198 039 33090	33Ω 1%	3114	2322 705 70564	560kΩ 5% 0402	3350	3198 021 34720	4.7kΩ 5% 0603
3018	3198 039 10090	10Ω 1%	3115	3198 031 02240	220kΩ 5% 0.1W 0402	3351	3198 021 31030	10kΩ 5% 0.062W 0603
3019	3198 021 51020	1kΩ 5% 0805	3116	3198 031 01020	1kΩ 5% 0402	3352	3198 021 31030	10kΩ 5% 0.062W 0603
3020	3198 031 05630	56kΩ 5% 0402	3117	3198 031 01030	10kΩ 5% 0402	3353	3198 031 01030	10kΩ 5% 0402
3021	3198 012 26880	6Ω±8 5% 2W	3118	2122 118 06084	0.051Ω 5% 1W 2512	3354	3198 031 04720	4.7kΩ 5% 0402
3022	3198 021 36810	680kΩ 5% 0.062W 0603	3120	3198 021 31820	1.8kΩ 5% 0.062W 0603	3356	3198 031 05610	560Ω 5% 0.01W 0402
3023	3198 031 04730	47Ω 5% 0402	3121	3198 031 04730	47Ω 5% 0402	3358	3198 021 32220	2.2kΩ 5% 0603
3024	2322 734 61504	150kΩ 1% 0805	3122	2322 734 67503	75kΩ 1% 0.062W 0805	3359	3198 031 05620	5.6kΩ 5% 0.01W 0402
3025	2322 706 71802	1.8kΩ 5% 0402	3123	3198 021 51830	18kΩ 5% 0805	3360	3198 031 01220	1.2kΩ 5% 0.01W 0402
3026	3198 021 56840	680kΩ 5% 0805	3124	2322 704 67502	7.5kΩ 1% 0.5W	3361	3198 031 04720	4.7kΩ 5% 0402
3027	3198 031 04730	47Ω 5% 0402	3125	2322 704 67502	7.5kΩ 1% 0.5W	3362	3198 031 02720	2.7kΩ 5% 0.01W 0402
3028	2322 704 67502	7.5kΩ 1% 0.5W	3126	2322 706 72202	2.2kΩ 5% 0402	3363	3198 021 31020	1kΩ 5% 0.062W 0603
3029	3198 021 31230	12kΩ 5% 0.062W 0603	3128	3198 031 03330	33kΩ 5% 0402	3364	3198 021 32720	2.7kΩ 5% 0603
3030	3198 031 01830	18kΩ 5% 0.01W 0402	3130	3198 021 31230	12kΩ 5% 0.062W 0603	3366	3198 031 01030	10kΩ 5% 0402
3031	2322 706 71003	10kΩ 5% 0402	3131	2322 706 71003	10kΩ 5% 0402	3367	3198 021 31030	10kΩ 5% 0.062W 0603
3032	2322 706 71003	10kΩ 5% 0402	3132	3198 031 02210	220Ω 5% 0402	3369	3198 031 04720	4.7kΩ 5% 0402
3033	2322 705 70184	180Ω 5% 0402	3133	3198 021 31010	100Ω 5% 0.062W 0603	3370	2322 675 20907	PTC 470Ω 50% 25V 0805
3034	3198 031 02210	220Ω 5% 0402	3134	3198 021 36810	680Ω 5% 0.062W 0603	3373	3198 031 04720	4.7kΩ 5% 0402
3035	3198 021 56840	680kΩ 5% 0805	3135	3198 031 04730	47Ω 5% 0402	3374	3198 031 04730	47Ω 5% 0402
3036	2122 612 00068	NTC 1Ω 20% 6W	3136	3198 031 04730	47Ω 5% 0402	3376	3198 031 04730	47Ω 5% 0402
3037	3198 031 01030	10kΩ 5% 0402	3143	3198 012 34720	4.7kΩ 5% 3W	3377	3198 031 04720	4.7kΩ 5% 0402
3038	3198 031 01040	100kΩ 5% 0402	3147	2322 706 71003	10kΩ 5% 0402	3378	3198 031 01030	10kΩ 5% 0402
3039	3198 021 31050	1MΩ 5% 0603	3149	2306 204 03478	Fuse 4.7Ω 5% NFR25	3380	3198 031 04730	47Ω 5% 0402
3040	3198 021 51040	100kΩ 5% 0805	3150	3198 031 01050	1MΩ 5% 0402	3381	3198 031 04730	47Ω 5% 0402
3041	3198 031 03330	33kΩ 5% 0402	3200	3198 021 53340	330kΩ 5% 0805	3383	3198 031 01030	10kΩ 5% 0402
3042	3198 021 34710	470Ω 5% 0603	3202	3198 021 34790	47Ω 5% 0603	3384	3198 031 01030	10kΩ 5% 0402
3043	3198 031 04720	4.7kΩ 5% 0402	3203	3198 021 31010	100Ω 5% 0.062W 0603	3386	3198 021 31010	100Ω 5% 0.062W 0603
3044	3198 021 31020	1kΩ 5% 0.062W 0603	3204	3198 031 01040	100kΩ 5% 0402	3388	3198 021 31020	1kΩ 5% 0.062W 0603
3045	3198 021 31020	1kΩ 5% 0.062W 0603	3205	3198 031 01540	150kΩ 5% 0402	3389	3198 021 31020	1kΩ 5% 0.062W 0603
3046	2322 241 53565	5.6MΩ 5%	3206	3198 021 52720	2.7kΩ 5% 0805	3390	3198 031 01020	1kΩ 5% 0402
3047	3198 031 01540	150kΩ 5% 0402	3207	3198 021 52720	2.7kΩ 5% 0805	3391	3198 031 01030	10kΩ 5% 0402
3048	3198 031 04720	4.7kΩ 5% 0402	3208	3198 021 52720	2.7kΩ 5% 0805	3392	3198 031 04730	47Ω 5% 0402
3049	3198 031 01230	12kΩ 5% 0402	3209	3198 021 52720	2.7kΩ 5% 0805	3393	3198 031 04730	47Ω 5% 0402
3050	2306 204 03398	3.9Ω 5%	3210	2322 706 71002	1kΩ 1% 0402	3394	3198 031 04730	47Ω 5% 0402
3051	3198 021 58220	8.2kΩ 5% 0805	3212	3198 021 31020	1kΩ 5% 0.062W 0603	3395	3198 031 01540	150kΩ 5% 0402
3052	2322 734 61504	150kΩ 1% 0805	3213	3198 031 03330	33kΩ 5% 0402	3397	3198 031 04730	47Ω 5% 0402
3053	2322 662 93131	PTC 10Ω	3214	2322 705 70124	120kΩ 5% 0402	3398	3198 031 04730	47Ω 5% 0402
3054	3198 031 04710	470Ω 5% 0402	3215	2322 705 70274	270kΩ 5% 0402	3399	3198 031 05620	5.6kΩ 5% 0.01W 0402
3055	3198 021 51030	10kΩ 5% 0805	3216	3198 031 01020	1kΩ 5% 0402	3400	2322 595 90022	VDR 1mA/612V 1120V
3056	3198 021 33310	330Ω 5% 0.062W 0603	3217	3198 031 01030	10kΩ 5% 0402	3401	2322 242 13105	1MΩ 5%
3057	3198 021 31010	100Ω 5% 0.062W 0603	3218	2122 118 06084	0.051Ω 5% 1W 2512	3404	3198 013 02210	220Ω 20% 0.5W
3058	3198 021 51050	1MΩ 5% 0805	3219	3198 031 01030	10kΩ 5% 0402	3450	2322 662 93131	PTC 10Ω
3059	3198 031 05630	56kΩ 5% 0402	3220	3198 039 33090	33Ω 1%	3451	2322 662 93131	PTC 10Ω
3060	3198 039 22040	220kΩ 1%	3224	2322 706 71203	12kΩ 5% 0402	3452	2122 612 00068	NTC 1Ω 20% 6W
3061	3198 031 01830	18kΩ 5% 0.01W 0402	3225	2322 706 71003	10kΩ 5% 0402	3460	3198 031 02220	2.2kΩ 5% 0402
3062	3198 031 01020	1kΩ 5% 0402	3226	3198 031 01030	10kΩ 5% 0402	3461	3198 031 01030	10kΩ 5% 0402
3063	3198 031 01020	1kΩ 5% 0402	3228	3198 021 31510	150Ω 5% 0.062W 0603	3463	3198 031 01030	10kΩ 5% 0402
3064	3198 031 01030	10kΩ 5% 0402	3229	3198 031 05610	560Ω 5% 0.01W 0402	3465	3198 031 01030	10kΩ 5% 0402
3065	3198 031 01020	1kΩ 5% 0402	3262	2322 706 71003	10kΩ 5% 0402	3467	3198 031 01030	10kΩ 5% 0402
3066	3198 031 01030	10kΩ 5% 0402	3263	2322 706 71003	10kΩ 5% 0402	3469	3198 031 04720	4.7kΩ 5% 0402
3067	3198 031 01530	15kΩ 5% 0.01W 0402	3264	3198 031 05610	560Ω 5% 0.01W 0402	3470	3198 031 01030	10kΩ 5% 0402
3068	3198 031 01030	10kΩ 5% 0402	3265	3198 031 01020	1kΩ 5% 0402	3471	3198 031 01020	1kΩ 5% 0402
3069	3198 021 34710	470Ω 5% 0603	3268	3198 031 01020	1kΩ 5% 0402	3472	3198 031 01020	1kΩ 5% 0402
3070	3198 021 31030	10kΩ 5% 0.062W 0603	3269	3198 031 02720	2.7kΩ 5% 0.01W 0402	3501	3198 021 31020	1kΩ 5% 0.062W 0603
3071	3198 031 04730	47Ω 5% 0402	3270	3198 039 15010	150Ω 1%	3502	3198 021 34710	470Ω 5% 0603
3072	3198 012 14720	4.7kΩ +100%/-0% 1W	3271	3198 039 15010	150Ω 1%	3503	2322 706 74702	4.7kΩ 5% 0402
3073	3198 031 01050	1MΩ 5% 0402	3292	3198 021 35610	560Ω 5% 0.062W 0603	3504	2322 706 73303	33kΩ 5% 0402
3074	3198 031 01530	15kΩ 5% 0.01W 0402	3300	2322 706 72204	220kΩ 5% 0402	3505	2322 706 74702	4.7kΩ 5% 0402
3075	3198 021 51050	1MΩ 5% 0805	3301	2322 706 72204	220kΩ 5% 0402	3506	2322 662 93131	PTC 10Ω
3076	3198 031 01040	100kΩ 5% 0402	3304	3198 021 31020	1kΩ 5% 0.062W 0603	3507	3198 021 56840	680kΩ 5% 0805
3077	3198 021 51050	1MΩ 5% 0805	3306	2322 706 71003	10kΩ 5% 0402	3508	3198 012 26880	6Ω±8 5% 2W
3078	3198 031 01040	100kΩ 5% 0402	3307	2322 704 61203	12kΩ 1% 0603	3509	3198 039 12090	12Ω 1%
3079	3198 021 36810	680kΩ 5% 0.062W 0603	3308	3198 021 31020	1kΩ 5% 0.062W 0603	3603	3198 021 54740	470kΩ 5% 0805
3080	3198 021 36810	680kΩ 5% 0.062W 0603	3311	2322 734 62204	220kΩ 1% 0805	3604	3198 021 54740	470kΩ 5% 0805
3081	3198 031 01520	1.2kΩ 5% 0.01W 0402	3312	3198 021 31020	1kΩ 5% 0.062W 0603	3605	3198 021 54740	470kΩ 5% 0805
3082	3198 031 01520	1.2kΩ 5% 0.01W 0402	3313	2322 704 67502	7.5kΩ 1% 0.5W	3606	3198 021 31010	100Ω 5% 0.062W 0603
3083	3198 039 10020	1kΩ 1% 0.5W	3317	2322 704 67502	7.5kΩ 1% 0.5W	3607	3198 021 32240	220kΩ 5% 0603
3084	3198 031 01030	10kΩ 5% 0402	3318	3198 031 01030	10kΩ 5% 0402	3608	3198 039 12090	12Ω 1%
3085	3198 031 04730	47Ω 5% 0402	3319	3198 031 01030	10kΩ 5% 0402	3609	3198 021 54740	470kΩ 5% 0805
3086	3198 031 04730	47Ω 5% 0402	3320	2322 706 71003	10kΩ 5% 0402	3610	3198 039 33080	3.3Ω 1%
3087	3198 031 04730	47Ω 5% 0402	3321	3198 021 31020	1kΩ 5% 0.062W 0603	3611	3198 039 10030	10kΩ 1%
3088	3198 031 04730	47Ω 5% 0402	3322	2322 706 73902	3.9kΩ 1% 0402	3613	3198 031 01030	10kΩ 5% 0402
3089	3198 031 01030	10kΩ 5% 0402	3323	2322 706 71003	10kΩ 5% 0402	3614	2322 194 95001	0.27Ω 5% 2W
3090	3198 031 01010	1Ω 5% 0402	3324	3198 021 31020	1kΩ 5% 0.062W 0603	3615	2322 194 95001	0.27Ω 5% 2W
3091	3198 021 31020	1kΩ 5% 0.062W 0603	3325	3198 021 34710	470Ω 5% 0603	3616	3198 031 01230	12kΩ 5% 0402
3092	3198 021 51020	1kΩ 5% 0805	3326	3198 031 04720	4.7kΩ 5% 0402	3617	3198 031 04730	47Ω 5% 0402
3093	3198 031 01020	1kΩ 5% 0402	3327	3198 031 01030	10kΩ 5% 040			

3642	3198 021 52210	220Ω 5% 0805	6029	3198 020 56880	BZX384-C6V8	6660	9322 202 55685	BYG22D
3643	3198 021 52210	220Ω 5% 0805	6031	3198 020 55680	BZX384-C5V6	6661	9322 202 55685	BYG22D
3651	3198 031 02230	22kΩ 5% 0402	6032	3198 020 55680	BZX384-C5V6	6663	9322 198 81685	SL04
3652	3198 031 01050	1MΩ 5% 0402	6033	9340 576 56115	BZX384-C47	6665	9322 198 81685	SL04
3654	3198 031 01030	10kΩ 5% 0402	6034	3198 010 10630	BAS316	6666	9340 548 57115	PDZ8.2B
3655	3198 031 01020	1kΩ 5% 0402	6035	3198 010 10630	BAS316			
3656	3198 031 01820	1.8kΩ 5% 0.01W 0402	6042	9340 576 56115	BZX384-C47			
3659	3198 021 52210	220Ω 5% 0805	6044	9322 202 88687	STTH2003CFP			
3660	3198 021 52710	270Ω 5% 0805	6045	3198 010 10740	BYV28-200			
3661	3198 021 52710	270Ω 5% 0805	6050	3198 020 51890	BZX384-C18			
3663	2306 204 03108	Fuse NFR25 1Ω	6054	9340 553 52115	BAS321			
3664	2322 706 71204	120kΩ 5% 0402	6055	9340 553 52115	BAS321			
3665	2322 705 70274	270kΩ 5% 0402	6061	3198 020 51890	BZX384-C18			
3666	3198 021 31010	100Ω 5% 0.062W 0603	6062	3198 020 51890	BZX384-C18			
3668	2306 207 03102	1kΩ 5%	6075	9322 213 87685	BZG03C270			
3669	2322 706 71204	120kΩ 5% 0402	6077	9322 213 87685	BZG03C270	7001	9322 108 21682	MC34067P
3671	2322 706 71003	10kΩ 5% 0402	6086	3198 010 10630	BAS316	7002	9322 149 04682	TCET1102
3673	2306 207 03102	1kΩ 5%	6111	9340 553 52115	BAS321	7003	9322 149 04682	TCET1102
3675	2322 702 60158	1.5Ω	6112	9340 553 52115	BAS321	7004	9322 192 17685	P0102BL
3676	2322 706 74702	4.7kΩ 5% 0402	6113	3198 010 10630	BAS316	7005	9322 192 18687	STP15NK50ZFP
3677	2322 706 74703	47kΩ 1% 0402	6114	3198 020 56880	BZX384-C6V8	7006	9322 192 18687	STP15NK50ZFP
3678	3198 031 04730	47kΩ 5% 0402	6117	3198 020 51890	BZX384-C18	7007	3198 020 43430	BC327-25
3679	2322 734 61504	150kΩ 1% 0805	6120	9322 250 24687	STTH802FP	7008	3198 020 43430	BC327-25
3680	2322 734 62204	220kΩ 1% 0805	6123	3198 010 10630	BAS316	7009	3198 010 42310	BC847BW
3681	2322 734 62204	220kΩ 1% 0805	6133	3198 010 10630	BAS316	7010	9322 192 16685	TS2431AI
3682	2322 734 62204	220kΩ 1% 0805	6134	3198 010 10630	BAS316	7011	9322 192 16685	TS2431AI
3683	3198 021 53340	330kΩ 5% 0805	6142	9322 192 15668	SM S3J	7012	3198 010 42310	BC847BW
3684	3198 021 53340	330kΩ 5% 0805	6201	3198 020 55680	BZX384-C5V6	7013	9339 172 40115	BCP56
3685	3198 021 53340	330kΩ 5% 0805	6202	3198 010 10630	BAS316	7017	3198 010 42320	BC857BW
3686	3198 021 31590	15Ω 5% 0.062W 0603	6204	3198 020 55680	BZX384-C5V6	7018	3198 010 42310	BC847BW
3690	3198 031 03920	3.9kΩ 5% 0402	6205	3198 020 51890	BZX384-C18	7020	9335 671 30126	BC517
3691	3198 031 08220	8.2kΩ 5% 0.5W	6206	3198 010 10630	BAS316	7021	9335 671 30126	BC517
3692	3198 031 01030	10kΩ 5% 0402	6211	9322 202 55685	BYG22D	7042	9340 308 50135	PMST5401
3693	3198 031 02220	2.2kΩ 5% 0402	6213	3198 010 10630	BAS316	7050	9322 241 13687	SUP85N15-21-E3
3806	3198 031 04710	470Ω 5% 0402	6216	3198 020 51890	BZX384-C18	7050	9340 557 16127	PSMN035-150P
3807	3198 031 01030	10kΩ 5% 0402	6225	9322 173 47687	STPS20L40CFP	7052	9322 237 50668	SUD25N15-52-E3
3808	3198 031 01030	10kΩ 5% 0402	6230	9322 082 82668	SS34	7052	9340 557 58118	PSMN063-150D
3809	3198 031 02730	27kΩ 5% 0402	6267	9322 161 77682	SB540L-7024	7058	3198 010 42310	BC847BW
3811	3198 031 01010	1Ω 5% 0402	6269	9322 099 61685	BYG10J	7059	3198 010 42310	BC847BW
3999	3198 031 01020	1kΩ 5% 0402	6270	9322 099 61685	BYG10J	7090	3198 010 42320	BC857BW
9001	3198 021 90020	Jumper 0805	6291	9322 199 41687	STPS8H100FP	7091	3198 010 42320	BC857BW
9002	3198 036 90010	Wire 0.58mm	6292	9322 199 41687	STPS8H100FP	7092	3198 010 44350	BC807-25W
9003	3198 021 90030	Jumper 0603	6312	3198 010 10660	BAT54	7093	3198 010 70590	LM317T
9004	3198 021 90030	Jumper 0603	6313	3198 010 10660	BAT54	7110	9340 308 50135	PMST5401
9009	3198 036 90010	Wire 0.58mm	6321	3198 010 10660	BAT54	7112	9352 673 56112	TEA1507p/N1
9020	3198 021 90020	Jumper 0805	6322	3198 010 10660	BAT54	7117	9340 557 17118	PSMN035-150B
9028	3198 031 90010	Jumper 0402	6325	3198 020 56880	BZX384-C6V8	7120	9322 149 04682	TCET1102
			6333	3198 010 10660	BAT54	7121	9322 192 16685	TS2431AI
			6334	3198 010 10660	BAT54	7130	9322 192 16685	TS2431AI
			6335	3198 010 10630	BAS316	7134	3198 010 42310	BC847BW
			6340	3198 010 10660	BAT54	7200	9322 235 99685	SI2328DS-E3
			6341	3198 010 10660	BAT54	7200	9340 565 06215	BSH114
			6344	3198 020 53380	BZX384-C3V3	7202	9322 235 98685	FET POW SM 2N7002
			6347	3198 010 10660	BAT54	7202	9340 125 00235	BSN20
			6362	3198 010 10630	BAS316	7212	9352 673 56112	TEA1507p/N1
			6364	3198 010 10630	BAS316	7217	9340 557 18127	PSMN070-200P
			6365	3198 010 10630	BAS316	7220	9322 149 04682	TCET1102
			6366	3198 010 10630	BAS316	7227	9322 192 16685	TS2431AI
			6367	3198 010 10630	BAS316	7230	9322 205 64687	L4940P85
			6375	3198 010 10630	BAS316	7260	9322 166 31682	L4973V3.3
			6376	3198 010 10630	BAS316	7304	9322 192 16685	TS2431AI
			6378	3198 010 10660	BAT54	7308	9322 213 16668	LM339PW
			6460	3198 010 10630	BAS316	7308	9322 213 35668	LM339P
			6461	3198 010 10630	BAS316	7326	3198 010 42310	BC847BW
			6470	3198 010 10630	BAS316	7327	3198 010 42310	BC847BW
			6471	3198 010 10630	BAS316	7330	9322 213 16668	LM339PW
			6501	9322 218 64673	BZT03C200	7330	9322 213 35668	LM339P
			6502	9322 218 64673	BZT03C200	7341	3198 010 42320	BC857BW
			6503	9322 176 76668	RS1J	7348	3198 010 42310	BC847BW
			6504	9322 176 76668	RS1J	7351	3198 010 42310	BC847BW
			6505	9322 082 82668	SS34	7352	3198 010 42310	BC847BW
			6506	9322 218 64673	BZT03C200	7362	3198 010 42310	BC847BW
			6507	9322 082 82668	SS34	7363	3198 010 42310	BC847BW
			6508	9322 128 69685	S1D	7364	3198 010 42310	BC847BW
			6510	9322 099 61685	BYG10J	7365	3198 010 42310	BC847BW
			6511	9322 099 61685	BYG10J	7366	9322 185 74668	LM324P
			6512	9322 099 61685	BYG10J	7366	9322 213 19668	LM324APW
			6513	9322 099 61685	BYG10J	7375	3198 010 42310	BC847BW
			6600	9322 177 84667	GBU8JL-7014	7376	3198 010 42310	BC847BW
			6601	9340 576 54115	BZX384-C39	7391	3198 010 42320	BC857BW
			6602	3198 020 51590	BZX384C15	7460	3198 010 44340	BC817-25W
			6605	9322 192 15668	SM S3J	7461	9336 787 80115	BC869
			6606	9322 192 15668	SM S3J	7465	3198 010 42320	BC857BW
			6608	3198 010 10710	SS14	7470	3198 010 44340	BC817-25W
			6609	9322 208 81685	BZG05C18	7500	9322 037 99682	TNY256P
			6611	9340 555 59127	BYV29X500	7501	9322 149 04682	TCET1102
			6640	3198 010 10710	SS14	7502	9322 192 16685	TS2431AI
			6641	3198 010 10630	BAS316	7540	9322 134 45668	LD1117DT33
			6642	3198 010 10710	SS14	7601	3198 010 42310	BC847BW
			6643	3198 020 51890	BZX384-C18	7602	3198 010 42320	BC857BW
			6651	3198 010 10660	BAT54	7608	3198 010 40170	BC369
			6652	3198 010 10710	SS14	7610	9322 223 21687	STW29NK50Z
			6653	3198 020 58280	BZX384-C8V2	7640	9322 235 98685	2N7002
			6654	3198 010 10630	BAS316	7640	9340 125 00235	BSN20
						7641	3198 010 44340	BC817-25W
						7650	9322 130 69682	MC33368P
						7654	3198 010 42320	BC857BW
						7655	3198 010 42310	BC847BW
						7656	3198 010 42310	BC847BW
						7661	9322 033 40668	MC34063ADG

Small Signal Board [B]

Software

0801	3139 127 07221	SW Hercules
0811	3139 127 07211	SW Genesis
0821	3139 127 07001	SW HDMI-1 DDC
0822	3139 127 06991	SW HDMI-2 DDC

Various

1062	2422 549 00148	Socket 3p m
1062	2422 549 00151	Socket 3p m
1119	3139 267 22741	OTC Flash SD2.1 assy
1151	2422 025 18749	Connector 3p m
1152	3139 147 19801	Tuner UV1318S/A IH -3
1154	4822 242 81436	Filter OFWK3953M
1156	2422 549 44341	38.9MHz OFWK9656M
1177	2422 025 18749	Connector 3p m
1202	2422 543 01414	Xtal 24.576MHz
1442	2422 025 19085	Connector 14p m
1801	2422 543 01133	Xtal 14.32MHz 20pF
1F01	2422 026 05647	Cinch 2P F 2L1
1F02	2422 033 00505	Socket HDMI 19p f
1F03	2422 033 00505	Socket HDMI 19p f
1G01	2422 025 19508	Combi 3X Cinch/SCART
1G02	2422 025 19509	Combi 2X Cinch/SCART
1J00	2422 025 10771	Connector 10p m
1J01	2422 025 10655	Connector 11p m
1J04	2422 025 10769	Connector 9p m
1J07	2422 086 11081	Fuse T3A 125V
1J08	2422 549 45333	Bead 120Ω at 100MHz
1K00	2422 025 08149	Connector 6p m
1K02	2422 025 10768	Connector 3p m
1K04	2422 025 10655	Connector 11p m
1L35	2422 543 01133	Xtal 14.32MHz 20pF
1N02	2422 540 00017	Reson. 60MHz CSTCW
1N11	2422 549 45325	Bead 67Ω at 100MHz
1N12	2422 549 45325	Bead 67Ω at 100MHz
1N13	2422 549 45325	Bead 67Ω at 100MHz
1N14	2422 549 45325	Bead 67Ω at 100MHz
1N15	2422 549 45325	Bead 67Ω at 100MHz
1N17	2422 025 18427	Connector 31p f
8000	3139 131 07211	Cable 14p/180/14p
8321	3104 311 08731	Cable POSI/100/POSI
8322	3104 311 07391	Cable 10p/220/10p
8337	3104 311 08621	Cable 11p/220/11p

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2151	4822 124 12095	100μF 20% 16V
2152	5322 126 11583	10nF 10% 50V 0603
2153	5322 126 11583	10nF 10% 50V 0603
2154	4822 122 33761	22pF 5% 50V
2155	4822 122 33761	22pF 5% 50V
2156	5322 126 11583	10nF 10% 50V 0603
2157	3198 024 44730	47nF 50V 0603
2159	5322 124 41945	22μF 20% 35V
2160	4822 124 12095	100μF 20% 16V
2204	2020 012 00029	330μF 6.3V
2207	2020 552 96718	220nF 10% 6.3V 0402
2208	4822 124 12084	1μF 20% 50V
2210	2020 552 96718	220nF 10% 6.3V 0402
2211	2020 552 96628	10nF 10% 16V 0402
2212	3198 035 71040	100nF 10% 16V 0402
2214	3198 035 03310	330pF 5% 50V 0402
2216	3198 035 03310	330pF 5% 50V 0402
2218	3198 035 71040	100nF 10% 16V 0402
2221	4822 124 12095	100μF 20% 16V
2222	2020 012 00029	330μF 6.3V
2223	2238 869 15101	100pF 5% 50V 0402
2225	2020 552 96618	1nF 10% 50V 0402
2226	3198 035 03320	3.3nF 5% 50V 0402
2227	2020 552 96618	1nF 10% 50V 0402
2228	3198 035 71040	100nF 10% 16V 0402
2230	3198 035 71040	100nF 10% 16V 0402
2231	2020 552 96718	220nF 10% 6.3V 0402
2232	3198 035 71040	100nF 10% 16V 0402
2233	4822 124 23002	100μF 16V
2234	2020 552 96718	220nF 10% 6.3V 0402
2235	2020 552 96718	220nF 10% 6.3V 0402
2236	4822 126 14076	220nF +80/-20% 25V
2237	2020 552 96718	220nF 10% 6.3V 0402
2238	2020 552 96718	220nF 10% 6.3V 0402
2239	3198 035 71040	100nF 10% 16V 0402
2240	2020 552 96718	220nF 10% 6.3V 0402
2241	2020 552 96718	220nF 10% 6.3V 0402
2242	3198 035 71040	100nF 10% 16V 0402
2243	4822 124 23002	10μF 16V
2244	3198 035 71040	100nF 10% 16V 0402
2245	3198 035 71040	100nF 10% 16V 0402

2246	3198 035 71040	100nF 10% 16V 0402
2250	2020 552 96618	1nF 10% 50V 0402
2251	2020 552 96656	10μF 20% 25V 1210
2252	3198 035 71040	100nF 10% 16V 0402
2253	3198 035 71040	100nF 10% 16V 0402
2254	3198 035 71040	100nF 10% 16V 0402
2255	3198 035 71040	100nF 10% 16V 0402
2256	4822 124 23002	10μF 16V
2257	3198 035 71040	100nF 10% 16V 0402
2258	2020 552 96637	10μF 10% 6.3V 0805
2259	3198 035 71040	100nF 10% 16V 0402
2260	2020 552 96637	10μF 10% 6.3V 0805
2262	4822 124 23002	10μF 16V
2263	3198 035 26820	6.8nF 10% 16V 0402
2264	2022 020 00762	0.47μ 20% 50V
2264	3198 017 44740	470nF 10V 0603
2265	3198 017 41050	1μF 10V 0603
2265	4822 124 12084	1μF 20% 50V
2266	3198 035 71040	100nF 10% 16V 0402
2267	2020 552 96718	220nF 10% 6.3V 0402
2269	2022 031 00373	470μF 20% 16V
2270	3198 035 71040	100nF 10% 16V 0402
2271	4822 124 12095	100μF 20% 16V
2272	3198 035 71040	100nF 10% 16V 0402
2273	2020 552 96718	220nF 10% 6.3V 0402
2274	3198 017 31540	150nF 10V 0603
2277	3198 035 71040	100nF 10% 16V 0402
2280	2020 552 00005	4.7μF 10% 6.3V 0603
2281	2020 552 00005	4.7μF 10% 6.3V 0603
2285	3198 035 71040	100nF 10% 16V 0402
2286	3198 035 71040	100nF 10% 16V 0402
2290	2020 552 96305	4.7μF 20-80% 10V
2291	3198 035 71040	100nF 10% 16V 0402
2449	3198 035 71040	100nF 10% 16V 0402
2501	3198 035 71040	100nF 10% 16V 0402
2502	3198 035 71040	100nF 10% 16V 0402
2503	3198 035 71040	100nF 10% 16V 0402
2504	3198 035 71040	100nF 10% 16V 0402
2505	3198 035 71040	100nF 10% 16V 0402
2506	3198 035 03310	330pF 5% 50V 0402
2507	3198 035 04710	470pF 50V 0402
2508	2238 869 15829	82pF 5% 50V 0402
2509	2238 869 15829	82pF 5% 50V 0402
2603	2020 552 96834	1μF 20% 6.3V 0402
2604	3198 035 04710	470pF 50V 0402
2605	2020 552 96834	1μF 20% 6.3V 0402
2608	2020 552 96834	1μF 20% 6.3V 0402
2609	3198 035 04710	470pF 50V 0402
2610	2020 552 96834	1μF 20% 6.3V 0402
2611	4822 124 12095	100μF 20% 16V
2612	3198 017 41050	1μF 10V 0603
2614	3198 035 71040	100nF 10% 16V 0402
2615	2022 031 00373	470μF 20% 16V
2618	2022 031 00373	470μF 20% 16V
2702	3198 035 71040	100nF 10% 16V 0402
2704	4822 124 23002	10μF 16V
2706	4822 124 23002	10μF 16V
2709	4822 124 80151	47μF 16V
2710	2020 552 00231	22μF 20%
2711	2020 552 00231	22μF 20%
2716	2020 012 00028	470μF 20% 16V
2717	3198 035 71040	100nF 10% 16V 0402
2718	3198 035 71040	100nF 10% 16V 0402
2719	3198 035 71040	100nF 10% 16V 0402
2720	2020 552 96618	1nF 10% 50V 0402
2721	3198 035 71040	100nF 10% 16V 0402
2722	2020 552 96618	1nF 10% 50V 0402
2723	3198 035 74730	47nF 5% 16V 0402
2724	3198 016 31020	1nF 25V 0603
2725	3198 016 31020	1nF 25V 0603
2726	2022 031 00373	470μF 20% 16V
2727	2020 552 96628	10nF 10% 16V 0402
2730	2020 552 00231	22μF 20%
2731	2022 031 00373	470μF 20% 16V
2733	3198 035 02210	220pF 5% 50V 0402
2734	2238 787 15641	1nF 5% 16V 0402
2735	3198 035 06810	680pF 5% 50V 0402
2736	2022 031 00308	22μF 20% 35V
2737	2022 031 00373	470μF 20% 16V
2738	4822 124 80151	47μF 16V
2739	4822 124 80151	47μF 16V
2741	4822 126 13879	220nF +80-20% 16V
2758	2022 031 00373	470μF 20% 16V
2800	2020 021 91557	100μF 20% 16V
2801	3198 035 71040	100nF 10% 16V 0402
2802	3198 035 71040	100nF 10% 16V 0402
2803	3198 035 71040	100nF 10% 16V 0402
2804	3198 035 71040	100nF 10% 16V 0402
2805	3198 035 71040	100nF 10% 16V 0402
2806	3198 035 71040	100nF 10% 16V 0402
2807	3198 035 71040	100nF 10% 16V 0402
2808	3198 035 71040	100nF 10% 16V 0402
2809	3198 035 71040	100nF 10% 16V 0402
2810	3198 035 71040	100nF 10% 16V 0402

2811	3198 035 71040	100nF 10% 16V 0402
2812	3198 035 71040	100nF 10% 16V 0402
2813	3198 035 71040	100nF 10% 16V 0402
2814	3198 035 71040	100nF 10% 16V 0402
2815	5322 124 41945	22μF 20% 35V
2816	3198 035 71040	100nF 10% 16V 0402
2817	3198 035 71040	100nF 10% 16V 0402
2818	3198 035 71040	100nF 10% 16V 0402
2819	3198 035 71040	100nF 10% 16V 0402
2820	3198 035 71040	100nF 10% 16V 0402
2821	3198 035 71040	100nF 10% 16V 0402
2822	3198 035 71040	100nF 10% 16V 0402
2823	4822 126 14519	22pF 5% 50V 0402
2824	4822 126 14519	22pF 5% 50V 0402
2900	3198 035 71040	100nF 10% 16V 0402
2901	2020 552 96618	1nF 10% 50V 0402
2902	2020 021 91557	100μF 20% 16V
2903	3198 035 71040	100nF 10% 16V 0402
2904	4822 124 80151	47μF 16V
2905	2020 021 91557	100μF 20% 16V
2906	3198 035 71040	100nF 10% 16V 0402
2907	3198 035 71040	100nF 10% 16V 0402
2908	3198 035 71040	100nF 10% 16V 0402
2909	3198 035 71040	100nF 10% 16V 0402
2910	3198 035 71040	100nF 10% 16V 0402
2911	3198 035 71040	100nF 10% 16V 0402
2912	3198 035 71040	100nF 10% 16V 0402
2913	3198 035 71040	100nF 10% 16V 0402
2914	3198 035 71040	100nF 10% 16V 0402
2915	3198 035 71040	100nF 10% 16V 0402
2916	3198 035 71040	100nF 10% 16V 0402
2917	2020 021 91557	100μF 20% 16V
2918	3198 035 71040	100nF 10% 16V 0402
2919	3198 035 71040	100nF 10% 16V 0402
2920	3198 035 71040	100nF 10% 16V 0402
2921	3198 035 71040	100nF 10% 16V 0402
2922	3198 035 71040	100nF 10% 16V 0402
2923	3198 035 71040	100nF 10% 16V 0402
2924	3198 035 71040	100nF 10% 16V 0402
2925	3198 035 71040	100nF 10% 16V 0402
2926	3198 035 71040	100nF 10% 16V 0402
2927	3198 035 71040	100nF 10% 16V 0402
2928	3198 035 71040	100nF 10% 16V 0402
2929	3198 035 71040	100nF 10% 16V 0402
2930	3198 035 71040	100nF 10% 16V 0402
2931	3198 035 71040	100nF 10% 16V 0402
2932	3198 035 71040	100nF 10% 16V 0402
2933	3198 035 71040	100nF 10% 16V 0402
2934	4822 124 80151	47μF 16V
2935	3198 035 71040	100nF 10% 16V 0402
2936	3198 035 71040	100nF 10% 16V 0402
2937	3198 035 71040	100nF 10% 16V 0402
2938	3198 035 71040	100nF 10% 16V 0402
2939	3198 035 71040	100nF 10% 16V 0402
2940	4822 124 80151	47μF 16V
2941	3198 035 71040	100nF 10% 16V 0402
2942	3198 035 71040	100nF 10% 16V 0402
2945	5322 124 41945	22μF 20% 35V
2946	3198 035 71040	100nF 10% 16V 0402
2947	3198 035 71040	100nF 10% 16V 0402
2948	3198 035 71040	100nF 10% 16V 0402
2949	3198 035 71040	100nF 10% 16V 0402
2950	5322 124 41945	22μF 20% 35V
2951	3198 035 71040	100nF 10% 16V 0402
2952	3198 035 71040	100nF 10% 16V 0402
2953	3198 035 71040	100nF 10% 16V 0402
2954	3198 035 71040	100nF 10% 16V 0402
2955	5322 124 41945	22μF 20% 35V
2956	3198 035 71040	100nF 10% 16V 0402
2957	3198 035 71040	100nF 10% 16V 0402
2958	3198 035 71040	100nF 10% 16V 0402
2959	3198 035 71040	100nF 10% 16V 0402
2960	2020 021 91557	100μF 20% 16V
2A12	2020 552 96628	10nF 10% 16V 0402
2A13	3198 035 71040	100nF 10% 16V 0402
2B01	4822 124 80151	47μF 16V
2B02	4822 124 11131	47μF 6.3V
2B03	3198 035 71040	100nF 10% 16V 0402
2B04	3198 035 71040	100nF 10% 16V 0402
2B05	3198 035 71040	100nF 10% 16V 0402
2B06	3198 035 71040	100nF 10% 16V 0402
2B07	3198 035 71040	100nF 10% 16V 0402
2B08	3198 035 71040	100nF 10% 16V 0402
2B09	3198 035 71040	100nF 10% 16V 0402
2B10	3198 035 71040	100nF 10% 16V 0402
2B11	3198 035 71040	100nF 10% 16V 0402
2B12	3198 035 71040	100nF 10% 16V 0402
2B13	3198 035 71040	100nF 10% 16V 0402
2B14	3198 035 71040	100nF 10% 16V 0402
2B15	3198 035 71040	100nF 10% 16V 0402
2B16	3198 035 71040	100nF 10% 16V 0402
2B17	3198 035 71040	100nF 10% 16V 0402
2B18	5322 124 41945	22μF 20% 35V
2C00	3198 035 71040	100nF 10% 16V 0402

2C01	4822 124 23002	10µF 16V	2G03	4822 126 14241	330pF 0603 50V	2L30	4822 124 12095	100µF 20% 16V
2C02	3198 035 71040	100nF 10% 16V 0402	2G04	4822 126 14241	330pF 0603 50V	2L31	3198 035 71040	100nF 10% 16V 0402
2C03	3198 035 71040	100nF 10% 16V 0402	2G05	4822 124 23002	10µF 16V	2L32	2020 552 96834	1µF 20% 6.3V 0402
2C04	2020 552 96628	10nF 10% 16V 0402	2G06	4822 124 23002	10µF 16V	2L33	3198 035 71040	100nF 10% 16V 0402
2C05	2020 552 96628	10nF 10% 16V 0402	2G09	4822 126 14508	180pF 5% 50V 0603	2L34	4822 124 12095	100µF 20% 16V
2D00	3198 035 71040	100nF 10% 16V 0402	2G10	4822 126 14508	180pF 5% 50V 0603	2L35	4822 126 14519	22pF 5% 50V 0402
2D01	3198 035 71040	100nF 10% 16V 0402	2G11	2020 552 00183	2.2µF 10% 6.3V 0603	2L36	4822 126 14519	22pF 5% 50V 0402
2D02	4822 124 23237	22µF 6.3V	2G12	2020 552 00183	2.2µF 10% 6.3V 0603	2L37	3198 035 71040	100nF 10% 16V 0402
2D08	2020 552 96618	1nF 10% 50V 0402	2G16	4822 126 14508	180pF 5% 50V 0603	2L51	3198 035 02210	220pF 5% 50V 0402
2D09	2020 552 96618	1nF 10% 50V 0402	2G17	4822 126 14508	180pF 5% 50V 0603	2L52	3198 035 04710	470pF 50V 0402
2D10	2020 552 96618	1nF 10% 50V 0402	2G20	4822 126 14241	330pF 0603 50V	2L53	2020 552 96618	1nF 10% 50V 0402
2D11	2020 552 96618	1nF 10% 50V 0402	2G21	4822 126 14241	330pF 0603 50V	2L61	3198 035 02210	220pF 5% 50V 0402
2D12	2020 552 96618	1nF 10% 50V 0402	2G22	4822 124 23002	10µF 16V	2L62	3198 035 04710	470pF 50V 0402
2D13	2020 552 96618	1nF 10% 50V 0402	2G23	4822 124 23002	10µF 16V	2L63	2020 552 96618	1nF 10% 50V 0402
2D14	2020 552 96618	1nF 10% 50V 0402	2G24	2020 552 00183	2.2µF 10% 6.3V 0603	2L71	2020 552 00005	4.7µF 10% 6.3V 0603
2D15	2020 552 96618	1nF 10% 50V 0402	2G25	2020 552 00183	2.2µF 10% 6.3V 0603	2L72	3198 035 71040	100nF 10% 16V 0402
2D16	2020 552 96618	1nF 10% 50V 0402	2G28	4822 126 14508	180pF 5% 50V 0603	2L73	2020 552 96637	10µF 10% 6.3V 0805
2D17	2020 552 96618	1nF 10% 50V 0402	2G43	2020 552 00005	4.7µF 10% 6.3V 0603	2L92	3198 035 74730	47nF 5% 16V 0402
2D18	2020 552 96618	1nF 10% 50V 0402	2G47	3198 035 71040	100pF 5% 50V 0402	2L93	3198 035 74730	47nF 5% 16V 0402
2D21	2020 552 96618	1nF 10% 50V 0402	2G54	2020 552 00183	2.2µF 10% 6.3V 0603	2L94	2020 552 96618	1nF 10% 50V 0402
2D22	3198 035 71040	100nF 10% 16V 0402	2G55	2020 552 00005	4.7µF 10% 6.3V 0603	2L95	4822 117 13605	Jumper 0402
2D23	2020 552 96618	1nF 10% 50V 0402	2G56	2020 552 00005	4.7µF 10% 6.3V 0603	2L96	3198 035 71040	100nF 10% 16V 0402
2D24	2020 552 96618	1nF 10% 50V 0402	2G57	2020 552 00005	4.7µF 10% 6.3V 0603	2L97	3198 035 74730	47nF 5% 16V 0402
2D25	3198 035 71040	100nF 10% 16V 0402	2G58	3198 035 71040	100nF 10% 16V 0402	2L98	3198 035 74730	47nF 5% 16V 0402
2D29	2020 552 96618	1nF 10% 50V 0402	2G60	2020 552 00183	2.2µF 10% 6.3V 0603	2M00	3198 035 71040	100nF 10% 16V 0402
2D30	2020 552 96618	1nF 10% 50V 0402	2G61	3198 017 42240	220nF 16V Y5V 0603	2M01	3198 035 71040	100nF 10% 16V 0402
2D31	2020 552 96618	1nF 10% 50V 0402	2G68	4822 126 14508	180pF 5% 50V 0603	2M02	3198 035 71040	100nF 10% 16V 0402
2D32	2020 552 96618	1nF 10% 50V 0402	2G69	4822 124 23002	10µF 16V	2M03	3198 035 71040	100nF 10% 16V 0402
2D34	2020 552 96618	1nF 10% 50V 0402	2G70	2020 552 96637	10µF 10% 6.3V 0805	2M04	3198 035 71040	100nF 10% 16V 0402
2D35	2020 552 96618	1nF 10% 50V 0402	2G71	2020 552 96637	10µF 10% 6.3V 0805	2M05	3198 035 71040	100nF 10% 16V 0402
2D36	2020 552 96618	1nF 10% 50V 0402	2J02	2020 552 96618	1nF 10% 50V 0402	2M06	3198 035 71040	100nF 10% 16V 0402
2D37	2020 552 96618	1nF 10% 50V 0402	2J03	2020 552 96618	1nF 10% 50V 0402	2M07	3198 035 71040	100nF 10% 16V 0402
2D38	2020 552 96618	1nF 10% 50V 0402	2J17	2020 552 96618	1nF 10% 50V 0402	2M08	3198 035 71040	100nF 10% 16V 0402
2D39	2020 552 96618	1nF 10% 50V 0402	2J21	2238 869 15101	100pF 5% 50V 0402	2M09	3198 035 71040	100nF 10% 16V 0402
2D42	4822 124 23237	22µF 6.3V	2J26	2238 869 15101	100pF 5% 50V 0402	2M10	3198 035 71040	100nF 10% 16V 0402
2D43	4822 124 23237	22µF 6.3V	2J27	2238 869 15101	100pF 5% 50V 0402	2M11	3198 035 71040	100nF 10% 16V 0402
2D44	4822 124 23237	22µF 6.3V	2J28	2238 869 15101	100pF 5% 50V 0402	2M12	3198 035 71040	100nF 10% 16V 0402
2D45	3198 035 71040	100nF 10% 16V 0402	2J29	2238 869 15101	100pF 5% 50V 0402	2M13	3198 035 71040	100nF 10% 16V 0402
2D46	4822 124 11131	47µF 6.3V	2J30	2020 552 96618	1nF 10% 50V 0402	2M14	3198 035 71040	100nF 10% 16V 0402
2D47	4822 124 23237	22µF 6.3V	2J31	2238 869 15101	100pF 5% 50V 0402	2M15	3198 035 71040	100nF 10% 16V 0402
2D48	4822 124 23237	22µF 6.3V	2J35	2020 552 96834	1µF 20% 6.3V 0402	2M16	3198 035 71040	100nF 10% 16V 0402
2D49	2020 552 96618	1nF 10% 50V 0402	2J36	2020 552 96618	1nF 10% 50V 0402	2M17	3198 035 71040	100nF 10% 16V 0402
2D50	4822 124 11131	47µF 6.3V	2K00	2020 552 96618	1nF 10% 50V 0402	2M18	3198 035 71040	100nF 10% 16V 0402
2D51	3198 035 71040	100nF 10% 16V 0402	2K01	2020 552 96618	1nF 10% 50V 0402	2M19	3198 035 71040	100nF 10% 16V 0402
2D52	4822 124 11131	47µF 6.3V	2K02	2238 869 15109	10pF 5% 50V 0402	2M20	3198 035 71040	100nF 10% 16V 0402
2D53	3198 035 71040	100nF 10% 16V 0402	2K03	2238 869 15109	10pF 5% 50V 0402	2M21	2020 552 00183	2.2µF 10% 6.3V 0603
2D54	4822 124 11131	47µF 6.3V	2K04	2238 869 15109	10pF 5% 50V 0402	2M22	3198 035 71040	100nF 10% 16V 0402
2D55	3198 035 71040	100nF 10% 16V 0402	2K05	2238 869 15109	10pF 5% 50V 0402	2M23	5322 124 41945	22µF 20% 35V
2D56	4822 124 23002	10µF 16V	2K06	2238 869 15101	100pF 5% 50V 0402	2M24	3198 035 71040	100nF 10% 16V 0402
2D57	4822 124 23002	10µF 16V	2K07	2238 869 15101	100pF 5% 50V 0402	2M25	3198 035 71040	100nF 10% 16V 0402
2D58	2020 552 96628	10nF 10% 16V 0402	2K08	2020 552 00183	2.2µF 10% 6.3V 0603	2M26	3198 035 71040	100nF 10% 16V 0402
2D59	2020 552 96628	10nF 10% 16V 0402	2K10	2238 869 15101	100pF 5% 50V 0402	2M27	3198 035 71040	100nF 10% 16V 0402
2E00	2020 552 00005	4.7µF 10% 6.3V 0603	2K11	2238 869 15101	100pF 5% 50V 0402	2M28	3198 035 71040	100nF 10% 16V 0402
2E01	2020 552 00005	4.7µF 10% 6.3V 0603	2K12	2020 552 00183	2.2µF 10% 6.3V 0603	2M29	3198 035 71040	100nF 10% 16V 0402
2E02	2020 552 00005	4.7µF 10% 6.3V 0603	2K13	2238 869 15101	100pF 5% 50V 0402	2M30	3198 035 71040	100nF 10% 16V 0402
2E03	3198 035 71040	100nF 10% 16V 0402	2K14	2238 869 15101	100pF 5% 50V 0402	2M31	5322 124 41945	22µF 20% 35V
2E04	2020 552 00005	4.7µF 10% 6.3V 0603	2K16	2238 869 15101	100pF 5% 50V 0402	2M32	5322 124 41945	22µF 20% 35V
2E05	2020 552 00005	4.7µF 10% 6.3V 0603	2K17	2238 869 15101	100pF 5% 50V 0402	2M56	5322 124 41945	22µF 20% 35V
2E06	2020 552 00005	4.7µF 10% 6.3V 0603	2K18	2238 869 15101	100pF 5% 50V 0402	2M65	3198 035 71040	100nF 10% 16V 0402
2E07	4822 126 14324	33pF 5% 50V 0402	2K19	2020 552 96618	1nF 10% 50V 0402	2M66	4822 124 12095	100µF 20% 16V
2E08	2020 552 00005	4.7µF 10% 6.3V 0603	2K20	2020 552 96618	1nF 10% 50V 0402	2M67	3198 035 71040	100nF 10% 16V 0402
2E09	4822 126 14324	33pF 5% 50V 0402	2K21	2238 869 15101	100pF 5% 50V 0402	2M68	4822 124 12095	100µF 20% 16V
2E10	2020 552 00005	4.7µF 10% 6.3V 0603	2K22	2238 869 15101	100pF 5% 50V 0402	2N01	3198 035 71040	100nF 10% 16V 0402
2E11	4822 126 14324	33pF 5% 50V 0402	2K23	2238 869 15101	100pF 5% 50V 0402	2N02	3198 035 71040	100nF 10% 16V 0402
2E12	2020 552 00005	4.7µF 10% 6.3V 0603	2K25	2238 869 15101	100pF 5% 50V 0402	2N03	3198 035 71040	100nF 10% 16V 0402
2E13	3198 017 41050	1µF 10V 0603	2K26	2238 869 15101	100pF 5% 50V 0402	2N04	3198 035 71040	100nF 10% 16V 0402
2E14	4822 126 14324	33pF 5% 50V 0402	2K27	2238 869 15101	100pF 5% 50V 0402	2N05	3198 035 71040	100nF 10% 16V 0402
2E16	3198 035 71040	100nF 10% 16V 0402	2L01	4822 124 23002	10µF 16V	2N06	3198 035 71040	100nF 10% 16V 0402
2E17	3198 035 71040	100nF 10% 16V 0402	2L02	4822 124 23002	10µF 16V	2N07	3198 035 71040	100nF 10% 16V 0402
2E18	3198 035 71040	100nF 10% 16V 0402	2L03	2020 552 96834	1µF 20% 6.3V 0402	2N08	3198 035 71040	100nF 10% 16V 0402
2E19	3198 035 71040	100nF 10% 16V 0402	2L04	2020 552 96834	1µF 20% 6.3V 0402	2N09	3198 035 71040	100nF 10% 16V 0402
2E20	4822 124 11131	47µF 6.3V	2L05	2020 552 96834	1µF 20% 6.3V 0402	2N10	3198 035 71040	100nF 10% 16V 0402
2E24	3198 035 71040	100nF 10% 16V 0402	2L06	2020 552 96834	1µF 20% 6.3V 0402	2N11	3198 035 71040	100nF 10% 16V 0402
2E25	3198 035 71040	100nF 10% 16V 0402	2L07	2020 552 96834	1µF 20% 6.3V 0402	2N12	3198 035 71040	100nF 10% 16V 0402
2E26	3198 035 71040	100nF 10% 16V 0402	2L08	2020 552 96834	1µF 20% 6.3V 0402	2N13	3198 035 71040	100nF 10% 16V 0402
2E27	3198 035 71040	100nF 10% 16V 0402	2L09	2020 552 96834	1µF 20% 6.3V 0402	2N14	3198 035 71040	100nF 10% 16V 0402
2E28	3198 035 71040	100nF 10% 16V 0402	2L10	2020 552 96668	560P 10% 50V	2N15	3198 035 71040	100nF 10% 16V 0402
2E29	3198 035 71040	100nF 10% 16V 0402	2L11	4822 124 23002	10µF 16V	2N16	3198 035 71040	100nF 10% 16V 0402
2E30	3198 035 71040	100nF 10% 16V 0402	2L12	2020 552 96834	1µF 20% 6.3V 0402	2N17	4822 124 11131	47µF 6.3V
2E31	3198 035 71040	100nF 10% 16V 0402	2L13	2020 552 96834	1µF 20% 6.3V 0402	2N19	3198 035 71040	100nF 10% 16V 0402
2E32								

2N35	3198 035 71040	100nF 10% 16V 0402	3239	4822 117 13545	100Ω 1% 0402	3811	2350 035 10229	4 x 22Ω 5% 1206
2N36	3198 035 71040	100nF 10% 16V 0402	3240	2322 704 61002	1kΩ 1%	3812	2350 035 10229	4 x 22Ω 5% 1206
2N37	3198 035 71040	100nF 10% 16V 0402	3241	4822 117 13545	100Ω 1% 0402	3813	2350 035 10229	4 x 22Ω 5% 1206
2N38	3198 035 71040	100nF 10% 16V 0402	3242	4822 117 13606	10kΩ 5% 0.01W 0402	3814	3198 031 02290	22Ω 5% 0.1W 0402
2N39	3198 035 71040	100nF 10% 16V 0402	3243	3198 031 04720	4.7kΩ 5% 0402	3815	3198 031 02290	22Ω 5% 0.1W 0402
2N40	3198 035 71040	100nF 10% 16V 0402	3245	3198 031 02240	220kΩ 5% 0.1W 0402	3816	3198 031 02290	22Ω 5% 0.1W 0402
2N41	3198 035 71040	100nF 10% 16V 0402	3246	3198 031 04720	4.7kΩ 5% 0402	3817	4822 117 13606	10kΩ 5% 0.01W 0402
2N42	3198 035 71040	100nF 10% 16V 0402	3247	4822 117 13545	100Ω 1% 0402	3818	4822 117 13606	10kΩ 5% 0.01W 0402
2N43	3198 035 71040	100nF 10% 16V 0402	3248	4822 117 13545	100Ω 1% 0402	3820	4822 117 13606	10kΩ 5% 0.01W 0402
2N44	3198 035 71040	100nF 10% 16V 0402	3249	3198 031 04720	4.7kΩ 5% 0402	3822	4822 117 13545	100Ω 1% 0402
2N45	3198 035 71040	100nF 10% 16V 0402	3262	4822 117 13601	22kΩ 5% 0402	3824	3198 031 03320	3.3kΩ 5% 0402
2N46	3198 035 71040	100nF 10% 16V 0402	3263	2322 702 70398	3.9Ω 5% 0603	3825	3198 031 11030	4 x 10kΩ 5% 1206
2N47	3198 035 71040	100nF 10% 16V 0402	3264	4822 117 13601	22kΩ 5% 0402	3826	3198 031 11030	4 x 10kΩ 5% 1206
2N48	3198 035 71040	100nF 10% 16V 0402	3265	2322 702 70398	3.9Ω 5% 0603	3827	4822 117 13606	10kΩ 5% 0.01W 0402
2N49	3198 035 71040	100nF 10% 16V 0402	3266	3198 031 05620	5.6kΩ 5% 0.01W 0402	3828	4822 117 13606	10kΩ 5% 0.01W 0402
2N50	3198 035 71040	100nF 10% 16V 0402	3267	3198 031 05620	5.6kΩ 5% 0.01W 0402	3829	4822 117 13606	10kΩ 5% 0.01W 0402
2N51	4822 124 11131	47μF 6.3V	3268	4822 117 13545	100Ω 1% 0402	3831	4822 117 13545	100Ω 1% 0402
2N55	3198 035 71040	100nF 10% 16V 0402	3272	3198 031 04720	4.7kΩ 5% 0402	3832	4822 117 13545	100Ω 1% 0402
2N56	3198 035 71040	100nF 10% 16V 0402	3273	4822 117 13548	1kΩ 5% 0402	3834	4822 117 13606	10kΩ 5% 0.01W 0402
2N57	3198 035 71040	100nF 10% 16V 0402	3274	3198 031 03910	390Ω 1% 0402	3835	4822 117 13606	10kΩ 5% 0.01W 0402
2N58	3198 035 71040	100nF 10% 16V 0402	3275	4822 117 13545	100Ω 1% 0402	3836	4822 117 13606	10kΩ 5% 0.01W 0402
2N59	3198 035 71040	100nF 10% 16V 0402	3276	3198 031 07590	75Ω 5% 0402	3837	4822 117 13606	10kΩ 5% 0.01W 0402
2N60	3198 035 71040	100nF 10% 16V 0402	3277	3198 031 01520	1.2kΩ 5% 0.01W 0402	3838	4822 117 13606	10kΩ 5% 0.01W 0402
2N61	3198 035 71040	100nF 10% 16V 0402	3280	4822 117 11151	1Ω 5%	3839	4822 117 13545	100Ω 1% 0402
2N62	3198 035 71040	100nF 10% 16V 0402	3281	3198 031 03930	39kΩ 5% 0402	3840	3198 031 02290	22Ω 5% 0.1W 0402
2N63	3198 035 71040	100nF 10% 16V 0402	3282	4822 051 30151	150Ω 5% 0.062W	3841	4822 117 13606	10kΩ 5% 0.01W 0402
2N64	3198 035 71040	100nF 10% 16V 0402	3285	4822 117 13605	Jumper 0402	3842	4822 117 13606	10kΩ 5% 0.01W 0402
2N65	3198 035 71040	100nF 10% 16V 0402	3286	4822 117 13545	100Ω 1% 0402	3900	3198 031 03320	3.3kΩ 5% 0402
2N66	3198 035 71040	100nF 10% 16V 0402	3292	3198 031 02730	27kΩ 5% 0402	3901	4822 117 13606	10kΩ 5% 0.01W 0402
2N67	3198 035 71040	100nF 10% 16V 0402	3294	3198 031 04730	47Ω 5% 0402	3902	4822 117 13606	10kΩ 5% 0.01W 0402
2N68	4822 124 12095	100μF 20% 16V	3295	4822 117 11297	100kΩ 5% 0.1W	3903	4822 117 13545	100Ω 1% 0402
2N69	2238 869 15101	100pF 5% 50V 0402	3297	3198 031 03320	3.3kΩ 5% 0402	3904	4822 117 13545	100Ω 1% 0402
2N75	3198 035 71040	100nF 10% 16V 0402	3298	3198 031 03320	3.3kΩ 5% 0402	3A10	4822 117 13606	10kΩ 5% 0.01W 0402
2N76	2020 552 00005	4.7μF 10% 6.3V 0603	3299	3198 031 04720	4.7kΩ 5% 0402	3A11	4822 117 13606	10kΩ 5% 0.01W 0402
2N80	2238 869 15109	10pF 5% 50V 0402	3431	4822 117 13548	1kΩ 5% 0402	3A13	4822 117 13606	10kΩ 5% 0.01W 0402
2N81	2238 869 15109	10pF 5% 50V 0402	3451	3198 031 04720	4.7kΩ 5% 0402	3A14	3198 031 04720	4.7kΩ 5% 0402
2N82	2238 869 15109	10pF 5% 50V 0402	3453	4822 117 13545	100Ω 1% 0402	3B01	4822 117 12706	10kΩ 1% 0.063W 0603
2N83	2238 869 15109	10pF 5% 50V 0402	3454	4822 117 13545	100Ω 1% 0402	3B02	4822 117 12706	10kΩ 1% 0.063W 0603
2N84	2238 869 15109	10pF 5% 50V 0402	3455	4822 117 13545	100Ω 1% 0402	3B03	2322 704 61501	150Ω 1% 0603
2N85	2238 869 15109	10pF 5% 50V 0402	3456	4822 117 13545	100Ω 1% 0402	3C00	4822 117 13606	10kΩ 5% 0.01W 0402
2N86	2238 869 15109	10pF 5% 50V 0402	3458	4822 117 13545	100Ω 1% 0402	3C01	4822 117 13606	10kΩ 5% 0.01W 0402
2N87	2238 869 15109	10pF 5% 50V 0402	3459	4822 117 13545	100Ω 1% 0402	3C02	4822 117 13548	1kΩ 5% 0402
2N88	2238 869 15109	10pF 5% 50V 0402	3461	4822 117 13545	100Ω 1% 0402	3C04	3198 031 11030	4 x 10kΩ 5% 1206
2N89	2238 869 15109	10pF 5% 50V 0402	3462	4822 117 13545	100Ω 1% 0402	3C05	4822 117 13606	10kΩ 5% 0.01W 0402
2N90	3198 035 71030	10nF 16V 0402	3501	4822 117 13543	470Ω 5% 0402	3C06	3198 031 11030	4 x 10kΩ 5% 1206
			3502	3198 031 04730	47Ω 5% 0402	3C07	3198 031 11030	4 x 10kΩ 5% 1206
			3604	4822 117 13601	22kΩ 5% 0402	3C08	3198 031 11030	4 x 10kΩ 5% 1206
			3605	4822 117 13601	22kΩ 5% 0402	3C09	3198 031 11030	4 x 10kΩ 5% 1206
			3609	4822 117 13601	22kΩ 5% 0402	3C10	3198 031 11030	4 x 10kΩ 5% 1206
			3610	4822 117 11297	100kΩ 5% 0.1W	3C16	3198 031 11030	4 x 10kΩ 5% 1206
			3611	4822 117 11297	100kΩ 5% 0.1W	3C17	4822 117 13606	10kΩ 5% 0.01W 0402
			3612	4822 117 13601	22kΩ 5% 0402	3C18	4822 117 13606	10kΩ 5% 0.01W 0402
			3616	4822 117 13605	Jumper 0402	3C22	4822 117 13548	1kΩ 5% 0402
			3617	4822 117 13548	1kΩ 5% 0402	3C23	3198 031 02240	220kΩ 5% 0.1W 0402
			3619	4822 117 13606	10kΩ 5% 0.01W 0402	3D00	3198 031 04720	4.7kΩ 5% 0402
			3628	4822 117 13606	10kΩ 5% 0.01W 0402	3D01	3198 031 04730	47Ω 5% 0402
			3629	4822 117 13601	22kΩ 5% 0402	3D02	3198 031 04720	4.7kΩ 5% 0402
			3630	4822 117 13602	2.2kΩ 5% 0.01W 0402	3D03	3198 031 04730	47Ω 5% 0402
			3631	4822 117 13602	2.2kΩ 5% 0.01W 0402	3D05	4822 117 13545	100Ω 1% 0402
			3632	2322 705 70569	56Ω 5% 0402	3D06	4822 117 13545	100Ω 1% 0402
			3633	2322 705 70569	56Ω 5% 0402	3D07	2322 704 61002	1kΩ 1%
			3701	4822 117 13606	10kΩ 5% 0.01W 0402	3D08	2322 704 61002	1kΩ 1%
			3702	4822 117 13606	10kΩ 5% 0.01W 0402	3D09	3198 031 04730	47Ω 5% 0402
			3709	3198 031 06820	6.8kΩ 5% 0.01W 0402	3D10	3198 031 04730	47Ω 5% 0402
			3718	5322 117 11726	10Ω 5%	3D11	3198 031 05620	5.6kΩ 5% 0.01W 0402
			3719	3198 031 01220	1.2kΩ 5% 0.01W 0402	3D15	3198 031 13390	4 x 33Ω 5% 1206
			3720	4822 117 13613	2.2Ω 5% 0603	3D16	3198 031 13390	4 x 33Ω 5% 1206
			3721	4822 117 13613	2.2Ω 5% 0603	3D17	3198 031 13390	4 x 33Ω 5% 1206
			3722	3198 031 02720	2.7kΩ 5% 0.01W 0402	3D18	3198 021 31080	1Ω 5% 0603
			3723	4822 051 20109	10Ω 5% 0.1W	3D19	3198 021 31080	1Ω 5% 0603
			3724	3198 031 01530	15kΩ 5% 0.01W 0402	3D20	3198 031 13390	4 x 33Ω 5% 1206
			3725	2322 704 63302	3.3kΩ 1% 0603	3D21	3198 031 13390	4 x 33Ω 5% 1206
			3726	3198 031 01220	1.2kΩ 5% 0.01W 0402	3D22	3198 031 03390	33Ω 1% 0402
			3727	2322 704 61002	1kΩ 1%	3D23	3198 031 03390	33Ω 1% 0402
			3732	2322 704 61002	1kΩ 1%	3D24	4822 117 13596	220Ω 5% 0.01W 0402
			3733	2322 704 63302	3.3kΩ 1% 0603	3D26	4822 117 13596	220Ω 5% 0.01W 0402
			3734	4822 117 13545	100Ω 1% 0402	3D27	3198 031 03320	3.3kΩ 5% 0402
			3735	4822 117 13548	1kΩ 5% 0402	3E06	3198 031 04730	47Ω 5% 0402
			3736	3198 031 04720	4.7kΩ 5% 0402	3E07	3198 031 04730	47Ω 5% 0402
			3740	3198 031 01520	1.2kΩ 5% 0.01			

3E25	2322 705 70399	39Ω 5% 0402	3G76	4822 117 13545	100Ω 1% 0402	3N17	3198 031 04720	4.7kΩ 5% 0402
3E26	3198 031 02290	22Ω 5% 0.1W 0402	3G77	3198 031 04730	47Ω 5% 0402	3N20	4822 117 13545	100Ω 1% 0402
3E27	2322 705 70399	39Ω 5% 0402	3G78	3198 031 04730	47Ω 5% 0402	3N21	4822 117 13545	100Ω 1% 0402
3E28	3198 031 02290	22Ω 5% 0.1W 0402	3G79	3198 031 06820	6.8kΩ 5% 0.01W 0402	3N22	3198 031 04720	4.7kΩ 5% 0402
3E29	2322 705 70399	39Ω 5% 0402	3G96	3198 031 04730	47Ω 5% 0402	3N23	3198 031 04720	4.7kΩ 5% 0402
3E30	3198 031 02290	22Ω 5% 0.1W 0402	3G99	3198 031 04730	47Ω 5% 0402	3N26	3198 031 04720	4.7kΩ 5% 0402
3E31	4822 117 13545	100Ω 1% 0402	3J05	3198 031 06890	68Ω 5% 0402	3N27	3198 031 04720	4.7kΩ 5% 0402
3E33	4822 117 13545	100Ω 1% 0402	3K00	4822 117 13545	100Ω 1% 0402	3N28	3198 031 04720	4.7kΩ 5% 0402
3E35	4822 117 13545	100Ω 1% 0402	3K01	4822 117 13545	100Ω 1% 0402	3N29	4822 117 13545	100Ω 1% 0402
3E36	4822 117 13545	100Ω 1% 0402	3K02	4822 117 13606	10kΩ 5% 0.01W 0402	3N30	4822 117 13606	10kΩ 5% 0.01W 0402
3E37	3198 031 02290	22Ω 5% 0.1W 0402	3K05	4822 117 13606	10kΩ 5% 0.01W 0402	3N31	3198 031 04720	4.7kΩ 5% 0402
3E38	4822 117 13545	100Ω 1% 0402	3K07	2322 705 70399	39Ω 5% 0402	3N71	3198 031 04720	4.7kΩ 5% 0402
3E39	4822 117 13545	100Ω 1% 0402	3K09	2322 705 70399	39Ω 5% 0402	3N72	3198 031 04720	4.7kΩ 5% 0402
3E43	4822 117 13545	100Ω 1% 0402	3K11	3198 031 06890	68Ω 5% 0402	3N73	3198 031 04720	4.7kΩ 5% 0402
3E46	3198 031 01090	10Ω 5% 0.01W 0402	3K12	3198 031 06890	68Ω 5% 0402	3N80	4822 117 13545	100Ω 1% 0402
3E49	3198 031 02290	22Ω 5% 0.1W 0402	3L01	2350 033 11229	4x 22Ω 5% Netw.	3N81	4822 117 13545	100Ω 1% 0402
3E50	3198 031 04730	47Ω 5% 0402	3L02	2350 033 11229	4x 22Ω 5% Netw.	3S00	3198 031 04730	47Ω 5% 0402
3E51	3198 031 04730	47Ω 5% 0402	3L05	2350 033 11229	4x 22Ω 5% Netw.	3S03	3198 031 04730	47Ω 5% 0402
3E52	3198 031 04730	47Ω 5% 0402	3L06	2350 033 11229	4x 22Ω 5% Netw.	4211	4822 117 13605	Jumper 0402
3E53	3198 031 04730	47Ω 5% 0402	3L07	3198 031 02290	22Ω 5% 0.1W 0402	4212	4822 117 13605	Jumper 0402
3E54	3198 031 04730	47Ω 5% 0402	3L09	3198 021 32290	22Ω 5% 0603	4218	4822 117 13605	Jumper 0402
3E55	3198 031 04730	47Ω 5% 0402	3L10	3198 021 32290	22Ω 5% 0603	4219	4822 117 13605	Jumper 0402
3E57	3198 031 01090	10Ω 5% 0.01W 0402	3L12	4822 117 13606	10kΩ 5% 0.01W 0402	4440	4822 117 13605	Jumper 0402
3F01	4822 051 30102	1kΩ 5% 0.062W	3L13	3198 031 03910	390Ω 1% 0402	4441	4822 117 13605	Jumper 0402
3F02	4822 051 30222	2.2kΩ 5% 0.062W	3L18	3198 031 01510	150Ω 5% 0.01W 0402	4501	4822 117 13605	Jumper 0402
3F03	4822 051 30102	1kΩ 5% 0.062W	3L19	3198 031 01510	150Ω 5% 0.01W 0402	4502	4822 117 13605	Jumper 0402
3F04	4822 051 30222	2.2kΩ 5% 0.062W	3L38	4822 051 30222	2.2kΩ 5% 0.062W	4504	4822 117 13605	Jumper 0402
3F05	4822 117 13603	33kΩ 5% 0402	3L39	4822 051 30222	2.2kΩ 5% 0.062W	4511	4822 117 13605	Jumper 0402
3F06	4822 117 13603	33kΩ 5% 0402	3L49	4822 117 13548	1kΩ 5% 0402	4801	4822 117 13605	Jumper 0402
3F07	4822 117 13603	33kΩ 5% 0402	3L53	4822 117 13597	330Ω 5% 0.01W 0402	4D03	4822 117 13605	Jumper 0402
3F08	4822 117 13603	33kΩ 5% 0402	3L54	4822 117 13543	470Ω 5% 0402	4D04	4822 117 13605	Jumper 0402
3F09	4822 117 13603	33kΩ 5% 0402	3L55	4822 117 13545	100Ω 1% 0402	4E01	4822 117 13605	Jumper 0402
3F10	4822 117 13603	33kΩ 5% 0402	3L56	4822 117 13548	1kΩ 5% 0402	4E10	3198 031 01090	10Ω 5% 0.01W 0402
3F11	4822 117 13603	33kΩ 5% 0402	3L57	4822 117 13545	100Ω 1% 0402	4E11	3198 031 01090	10Ω 5% 0.01W 0402
3F12	4822 117 13603	33kΩ 5% 0402	3L58	4822 117 13548	1kΩ 5% 0402	4G04	4822 117 13605	Jumper 0402
3F13	4822 117 13603	33kΩ 5% 0402	3L60	4822 117 13605	Jumper 0402	4G05	4822 117 13605	Jumper 0402
3F14	4822 117 13603	33kΩ 5% 0402	3L61	4822 117 13597	330Ω 5% 0.01W 0402	4G07	4822 117 13605	Jumper 0402
3F15	4822 117 13603	33kΩ 5% 0402	3L62	4822 117 13543	470Ω 5% 0402	4G08	4822 117 13605	Jumper 0402
3F16	4822 117 13603	33kΩ 5% 0402	3L63	4822 117 13545	100Ω 1% 0402	4G31	4822 117 13605	Jumper 0402
3F17	4822 117 13603	33kΩ 5% 0402	3L64	4822 117 13548	1kΩ 5% 0402	4J01	4822 117 13605	Jumper 0402
3F18	4822 117 13603	33kΩ 5% 0402	3L65	4822 117 13545	100Ω 1% 0402	4K04	4822 117 13605	Jumper 0402
3F19	4822 117 13603	33kΩ 5% 0402	3L67	4822 117 13605	Jumper 0402	4K05	4822 117 13605	Jumper 0402
3F20	4822 117 13603	33kΩ 5% 0402	3L68	4822 117 13605	Jumper 0402	4L37	4822 117 13545	100Ω 1% 0402
3F24	4822 051 30103	10kΩ 5% 0.062W	3L71	4822 117 13597	330Ω 5% 0.01W 0402	4M00	4822 117 13605	Jumper 0402
3F25	4822 051 30103	10kΩ 5% 0.062W	3L73	4822 117 13545	100Ω 1% 0402	4M01	4822 117 13605	Jumper 0402
3F26	4822 051 30153	15kΩ 5% 0.062W	3L75	4822 051 30153	15kΩ 5% 0.062W	4M02	4822 117 13605	Jumper 0402
3F27	4822 051 30153	15kΩ 5% 0.062W	3L76	4822 051 30153	15kΩ 5% 0.062W	4M03	4822 117 13605	Jumper 0402
3F28	4822 117 13545	100Ω 1% 0402	3L92	3198 031 03390	33Ω 1% 0402	4M05	4822 117 13605	Jumper 0402
3F29	4822 117 13602	2.2kΩ 5% 0.01W 0402	3L93	3198 031 06890	68Ω 5% 0402	4M08	4822 117 13605	Jumper 0402
3F30	4822 117 13545	100Ω 1% 0402	3L94	3198 031 03910	390Ω 1% 0402	4M09	4822 117 13605	Jumper 0402
3F31	4822 117 13602	2.2kΩ 5% 0.01W 0402	3L95	4822 117 13605	Jumper 0402	4M10	4822 117 13605	Jumper 0402
3G01	4822 051 30151	150Ω 5% 0.062W	3L96	4822 117 13605	Jumper 0402	4M16	4822 117 13605	Jumper 0402
3G02	4822 117 12891	220kΩ 1%	3L97	3198 031 03390	33Ω 1% 0402	4M17	4822 117 13605	Jumper 0402
3G03	4822 117 12891	220kΩ 1%	3L98	3198 031 06890	68Ω 5% 0402	4N01	4822 117 13605	Jumper 0402
3G04	4822 051 30103	10kΩ 5% 0.062W	3L99	3198 031 03910	390Ω 1% 0402	4N02	4822 117 13605	Jumper 0402
3G05	4822 051 30103	10kΩ 5% 0.062W	3M01	2350 035 10689	4 x 68Ω 5%	4N03	4822 117 13605	Jumper 0402
3G06	4822 051 30101	100Ω 5% 0.062W	3M02	2350 035 10689	4 x 68Ω 5%	4N04	4822 117 13605	Jumper 0402
3G07	4822 051 30101	100Ω 5% 0.062W	3M03	2350 035 10689	4 x 68Ω 5%	4N05	4822 117 13605	Jumper 0402
3G08	4822 051 30101	100Ω 5% 0.062W	3M04	2350 035 10689	4 x 68Ω 5%	4N06	4822 117 13605	Jumper 0402
3G09	2122 118 06408	91Ω 5% 0603	3M06	2350 035 10229	4 x 22Ω 5% 1206	4N07	4822 117 13605	Jumper 0402
3G10	2122 118 06408	91Ω 5% 0603	3M07	2350 035 10229	4 x 22Ω 5% 1206	4N08	4822 117 13605	Jumper 0402
3G11	3198 031 06820	6.8kΩ 5% 0.01W 0402	3M08	2350 035 10229	4 x 22Ω 5% 1206	4N09	4822 117 13605	Jumper 0402
3G12	4822 051 30759	75Ω 5% 0.062W	3M09	2350 035 10229	4 x 22Ω 5% 1206	4N10	4822 117 13605	Jumper 0402
3G13	4822 051 30331	330Ω 5% 0.062W	3M11	3198 031 04720	4.7kΩ 5% 0402	4N11	4822 117 13605	Jumper 0402
3G14	4822 051 30102	1kΩ 5% 0.062W	3M13	3198 031 04720	4.7kΩ 5% 0402	4N12	4822 117 13605	Jumper 0402
3G15	4822 051 30102	1kΩ 5% 0.062W	3M14	4822 117 13545	100Ω 1% 0402	4N13	4822 117 13605	Jumper 0402
3G16	4822 051 30759	75Ω 5% 0.062W	3M15	4822 117 13545	100Ω 1% 0402	4N26	4822 117 13605	Jumper 0402
3G17	4822 051 30101	100Ω 5% 0.062W	3M16	3198 031 04720	4.7kΩ 5% 0402	4N30	4822 117 13605	Jumper 0402
3G18	4822 051 30103	10kΩ 5% 0.062W	3M50	4822 117 13606	10kΩ 5% 0.01W 0402	4N31	4822 117 13605	Jumper 0402
3G19	4822 051 30103	10kΩ 5% 0.062W	3M51	4822 117 13606	10kΩ 5% 0.01W 0402	4N34	4822 117 13605	Jumper 0402
3G20	4822 051 30153	15kΩ 5% 0.062W	3M52	4822 117 13606	10kΩ 5% 0.01W 0402	4N35	4822 117 13605	Jumper 0402
3G21	4822 051 30153	15kΩ 5% 0.062W	3M53	4822 117 13546	47Ω 5% 0402			
3G22	4822 051 30151	150Ω 5% 0.062W	3M54	4822 117 13546	47Ω 5% 0402			
3G23	4822 051 30151	150Ω 5% 0.062W	3M55	4822 117 13546	47Ω 5% 0402			
3G24	4822 117 12891	220kΩ 1%	3M56	4822 117 13606	10kΩ 5% 0.01W 0402	5151	3198 018 33970	0.39μH 10% 0805
3G25	4822 117 12891	220kΩ 1%	3M57	4822 117 13546	47Ω 5% 0402	5152	4822 157 71334	0.68μH 5% 1008
3G26	4822 051 30103	10kΩ 5% 0.062W	3M58	4822 117 13606	10kΩ 5% 0.01W 0402	5153	4822 157 71334	0.68μH 5% 1008
3G27	4822 051 30103	10kΩ 5% 0.062W	3M59	4822 117 13546	47Ω 5% 0402	5201	4822 157 11716	Bead 30Ω at 100MHz
3G28	4822 051 30759	75Ω 5% 0.062W	3M78	4822 117 13548	1kΩ 5% 0402	5202	4822 157 11716	Bead 30Ω at 100MHz
3G29	4822 051 30102	1kΩ 5% 0.062W	3M79	3198 031 03320	3.3kΩ 5% 0402	5203	4822 157 11716	Bead 30Ω at 100MHz
3G30	4822 051 30689	68Ω 5% 0.063W 0603	3M87	4822 117 13605	Jumper 0402	5204	2422 549 42896	Bead 120Ω 100MHz
3G33	4822 051 30102	1kΩ 5% 0.062W	3M89	3198 031 02290	22Ω 5% 0.1W 0402	5205	4822 157 11716	Bead 30Ω at 100MHz
3G34	4822 051 30101	100Ω 5% 0.062W	3M90	3198 031 02290	22Ω 5% 0.1W 0402	5206	4822 157 11716	Bead 30Ω at 100MHz
3G36	3198 031 04730	47Ω 5% 0402	3N01	4822 117 13545	100Ω 1% 0402	5207	2422 549 42896	Bead 120Ω 100MHz
3G37	3198 031 04730	47Ω 5% 0402	3N02	4822 117 13545	100Ω 1% 0402	5208	4822 157 11716	Bead 30Ω at 100MHz
3G38	4822 051 30151	150Ω 5% 0.062W	3N03	4822 117 13545	100Ω 1% 0402	5209	4822 157 11716	Bead 30Ω at 100MHz
3G39	4822 051 30273	27kΩ 5% 0.062W	3N04	4822 117 13545	100Ω 1% 0402	5210	4822 157 11716	Bead 30Ω at 100MHz
3G57	3198 031 02730	27kΩ 5% 0402	3N05	4822 117 13545	100Ω 1% 0402	5211	4822 157 11716	Bead 30Ω at 100MHz
3G58	4822 051 30689	68Ω 5% 0.063W 0603	3N10	3198 031 01050	1MΩ 5% 0402	5212	4822 157 11716	Bead 30Ω at 100MHz
3G59								

5501	3198 018 31080	1μH 10% 0805
5704	2422 549 45333	Bead 120Ω at 100MHz
5709	2422 535 94134	10μH 20% 0805
5713	2422 536 01218	3.3μH 30%
5717	2422 536 00671	10μH 20%
5730	2422 535 94134	10μH 20% 0805
5733	2422 536 00707	33μH 20%
5735	2422 536 00516	100μH 20%
5737	2422 535 94134	10μH 20% 0805
5738	2422 549 45333	Bead 120Ω at 100MHz
5751	2422 535 94134	10μH 20% 0805
5900	2422 549 45333	Bead 120Ω at 100MHz
5901	2422 549 45333	Bead 120Ω at 100MHz
5902	2422 549 45333	Bead 120Ω at 100MHz
5903	2422 549 45333	Bead 120Ω at 100MHz
5904	2422 549 45333	Bead 120Ω at 100MHz
5905	2422 549 45333	Bead 120Ω at 100MHz
5906	2422 549 45333	Bead 120Ω at 100MHz
5907	2422 549 45333	Bead 120Ω at 100MHz
5908	2422 549 45333	Bead 120Ω at 100MHz
5909	2422 549 45333	Bead 120Ω at 100MHz
5910	2422 549 45333	Bead 120Ω at 100MHz
5911	2422 549 45333	Bead 120Ω at 100MHz
5C00	2422 549 45333	Bead 120Ω at 100MHz
5D00	2422 549 42896	Bead 120Ω 100MHz
5D01	2422 549 42896	Bead 120Ω 100MHz
5D02	2422 549 42896	Bead 120Ω 100MHz
5D03	2422 549 42896	Bead 120Ω 100MHz
5D04	2422 549 42896	Bead 120Ω 100MHz
5D05	2422 549 42896	Bead 120Ω 100MHz
5D06	2422 549 42896	Bead 120Ω 100MHz
5E00	2422 549 45333	Bead 120Ω at 100MHz
5E01	2422 549 45333	Bead 120Ω at 100MHz
5G01	2422 549 45333	Bead 120Ω at 100MHz
5G02	2422 549 45333	Bead 120Ω at 100MHz
5G03	2422 549 45333	Bead 120Ω at 100MHz
5G06	2422 549 45333	Bead 120Ω at 100MHz
5G07	2422 549 42896	Bead 120Ω 100MHz
5G08	2422 549 42896	Bead 120Ω 100MHz
5J01	2422 549 42896	Bead 120Ω 100MHz
5J02	2422 549 42896	Bead 120Ω 100MHz
5J03	2422 549 45333	Bead 120Ω at 100MHz
5J04	2422 549 45333	Bead 120Ω at 100MHz
5L01	2422 549 45333	Bead 120Ω at 100MHz
5L11	2422 549 45333	Bead 120Ω at 100MHz
5L17	2422 549 45333	Bead 120Ω at 100MHz
5L19	2422 549 45333	Bead 120Ω at 100MHz
5L21	2422 549 45333	Bead 120Ω at 100MHz
5L51	4822 157 71694	0.82μH 10%
5L52	3198 018 53380	3.3μH 10% 0603
5L53	3198 018 56880	6.8μH 10% 0603
5L61	4822 157 71694	0.82μH 10%
5L62	3198 018 53380	3.3μH 10% 0603
5L63	3198 018 56880	6.8μH 10% 0603
5L71	2422 549 45333	Bead 120Ω at 100MHz
5M00	2422 549 45333	Bead 120Ω at 100MHz
5M01	2422 549 45333	Bead 120Ω at 100MHz
5M02	2422 549 45333	Bead 120Ω at 100MHz
5M03	2422 549 45333	Bead 120Ω at 100MHz
5M04	2422 549 45333	Bead 120Ω at 100MHz
5M05	2422 549 45333	Bead 120Ω at 100MHz
5N03	4822 157 11716	Bead 30Ω at 100MHz
5N04	4822 157 11716	Bead 30Ω at 100MHz
5N05	4822 157 11716	Bead 30Ω at 100MHz
5N06	4822 157 11716	Bead 30Ω at 100MHz
5N07	4822 157 11716	Bead 30Ω at 100MHz
5N10	4822 157 11716	Bead 30Ω at 100MHz
5N11	4822 157 11716	Bead 30Ω at 100MHz
5N12	4822 157 11716	Bead 30Ω at 100MHz
5N72	4822 157 11716	Bead 30Ω at 100MHz



6151	4822 130 11416	PDZ6.8B
6152	4822 130 11416	PDZ6.8B
6153	4822 130 11397	BAS316
6154	4822 130 11525	1SS356
6204	4822 130 80622	BAT54
6205	4822 130 80622	BAT54
6430	9340 548 42115	PDZ2.4B
6431	9965 000 20150	1N4148WS SOD-323
6601	4822 130 10838	UDZ3.3B
6717	4822 130 11397	BAS316
6718	3198 010 10720	SS24
6733	9322 128 70685	SMSS14
6734	4822 130 11416	PDZ6.8B
6735	5322 130 34337	BAV99
6736	9340 548 71115	PDZ33B
6740	4822 130 10837	UDZS8.2B
6G01	4822 130 11564	UDZ3.9B
6G02	4822 130 11564	UDZ3.9B
6G03	4822 130 11564	UDZ3.9B
6G04	4822 130 11564	UDZ3.9B

6G06	4822 130 11564	UDZ3.9B
6G07	4822 130 11564	UDZ3.9B
6G08	4822 130 11564	UDZ3.9B
6G09	4822 130 11564	UDZ3.9B



7151	3198 010 42310	BC847BW
7201	9340 550 49115	PUMH7
7202	9340 550 49115	PUMH7
7206	4822 130 60373	BC856B
7207	9322 214 45668	M24C16-WMN6P
7214	9339 693 90135	BCP69-25
7215	9339 693 90135	BCP69-25
7216	9340 425 20115	BC847BS
7217		SW (see 0801)
7219	3198 010 71090	74HC4053D
7220	9965 000 04199	BSN20
7221	9965 000 04199	BSN20
7430	4822 130 11155	PDTC114ET
7436	3198 010 70740	74LCX14T
7501	9322 199 16668	M74HC590T
7502	9322 208 98668	M68AF031AM70N6
7503	9322 199 16668	M74HC590T
7504	3198 010 42310	BC847BW
7505	9351 870 00118	74HC573PW
7506	9351 870 00118	74HC573PW
7601	9322 183 05668	TS482ID
7602	9351 742 70118	74HC08PW
7604	3198 010 42310	BC847BW
7605	9340 310 50215	PDTA143ET
7606	9340 425 20115	BC847BS
7708	9322 139 16668	LF33CPT
7710	9322 182 77668	L6910
7711	9322 160 70668	SI4936ADY
7730	9322 202 34668	L5973D
7735	4822 130 11057	2N7002
7738	9322 163 24668	L78M08CDT
7741	3198 010 42310	BC847BW
7742	3198 010 42310	BC847BW
7801	9322 230 32671	GM1501-LF-CF
7900	9322 142 88668	LF25CDT
7901	9322 189 19668	LD1086D2T18
7A02	3198 010 42310	BC847BW
7A03	3198 010 42310	BC847BW
7B01	9322 214 42671	K4D263238F-QC50
7C01	9322 189 01668	AT24C32AN
7C02	9322 215 39685	PST596JN
7C03		SW (see 0811)
7D00		SW (see 0821)
7D01		SW (see 0822)
7D02	9322 189 19668	LD1086D2T18
7D03	9352 810 72557	TDAA9974AEL/8/C107
7D04	9352 668 39118	UDA1334ATS/N2
7D05	2722 171 00038	Xtal 13M5 15pF
7E00	9322 195 23668	ADG733BRU
7E01	9322 199 80668	SM5301BS-G
7E04	3198 010 70740	74LCX14T
7E05	3198 010 70740	74LCX14T
7F01	3198 010 42310	BC847BW
7F02	3198 010 42310	BC847BW
7F03	4822 209 15765	74HC4052D
7F04	3198 010 42310	BC847BW
7F05	3198 010 42310	BC847BW
7G01	3198 010 42310	BC847BW
7G02	3198 010 42310	BC847BW
7G11	3198 010 71090	74HC4053D
7L01	9322 226 40671	P3563M-LF-80
7L02	4822 209 17398	LD1117DT33
7L51	3198 010 42310	BC847BW
7L52	3198 010 42320	BC857BW
7L61	3198 010 42310	BC847BW
7L62	3198 010 42320	BC857BW
7L71	3198 010 42310	BC847BW
7L72	9322 226 94668	SM5304AV-G
7M00	9322 204 76671	T6TU5XBG-0001
7M01	9322 206 19672	MSM56V16160F-7T3-FG
7M03	9322 170 14668	LF15ABDT
7N00	9322 230 92671	PACIFIC3-N3(O2)
7N02	9322 206 45668	M25P05-AVMN6P
7N03	9322 187 04668	LF25ABDT
7N04	9322 170 14668	LF15ABDT
7N05	3198 010 42310	BC847BW

Audio Amplifier Panel [C]

Various

1M01	2422 025 18744	Connector 9p m
1M02	2422 025 18742	Connector 7p m
1M03	2422 025 18738	Connector 3p m

1M04	2422 025 19515	Connector 3p m
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2D02	2020 552 96637	10μF 10% 6.3V 0805
2D03	2238 869 15101	100pF 5% 50V 0402
2D04	2020 552 96628	10nF 10% 16V 0402
2D11	2250 200 13667	2.2μF 10% 6.3V 0805
2D14	2222 580 15649	100nF 10% 50V 0805
2D17	2222 580 15649	100nF 10% 50V 0805
2D19	2222 580 15649	100nF 10% 50V 0805
2D20	2222 580 15649	100nF 10% 50V 0805
2D21	2222 580 15649	100nF 10% 50V 0805
2D22	2020 021 00215	220μF 20% 25V
2D23	2020 021 00215	220μF 20% 25V
2D26	2022 552 05679	1μF 10% 16V 0805
2D27	2022 552 05679	1μF 10% 16V 0805
2D28	2020 021 00215	220μF 20% 25V
2D30	2020 552 96628	10nF 10% 16V 0402
2D31	2020 552 96628	10nF 10% 50V 0402
2D32	2020 552 96621	1.5nF 10% 50V 0402
2D35	2020 552 96621	1.5nF 10% 50V 0402
2D36	2020 552 96621	1.5nF 10% 50V 0402
2D37	2020 552 96621	1.5nF 10% 50V 0402
2D38	2222 580 15649	100nF 10% 50V 0805
2D39	2020 552 96621	1.5nF 10% 50V 0402
2D40	2020 552 96621	1.5nF 10% 50V 0402
2D41	2222 580 15649	100nF 10% 50V 0805
2D43	2222 580 15649	100nF 10% 50V 0805
2D45	4822 126 14585	100nF 10% 0805 50V
2D46	4822 126 14585	100nF 10% 0805 50V
2D47	2020 552 96621	1.5nF 10% 50V 0402
2D48	2020 552 96621	1.5nF 10% 50V 0402
2D49	2020 552 96621	1.5nF 10% 50V 0402
2D50	2020 552 96621	1.5nF 10% 50V 0402
2D51	2020 552 96618	1nF 10% 50V 0402
2D52	2020 021 00215	220μF 20% 25V
2D53	2020 552 96828	470nF 20% 25V
2D54	2020 552 96828	470nF 20% 25V
2D55	2020 552 96621	1.5nF 10% 50V 0402
2D63	2020 552 96628	10nF 10% 16V 0402
2D64	3198 034 02280	2.2pF 1% 50V 0402
2D65	3198 034 02280	2.2pF 1% 50V 0402
2D66	3198 034 02280	2.2pF 1% 50V 0402
2D67	2238 586 59812	100nF 20% 50V 0603
2D68	2238 586 59812	100nF 20% 50V 0603
2D71	3198 034 01080	1pF 1% 50V 0402
2D72	3198 034 01080	1pF 1% 50V 0402
2D73	2020 552 96628	10nF 10% 16V 0402
2M10	2020 552 96618	1nF 10% 50V 0402
2M11	2020 552 96618	1nF 10% 50V 0402
2M12	2020 552 96618	1nF 10% 50V 0402
2M13	2020 552 96618	1nF 10% 50V 0402
2M14	2020 552 96618	1nF 10% 50V 0402
2M15	2020 552 96623	2.2nF 10% 50V 0402
2M16	2020 552 96623	2.2nF 10% 50V 0402
2M17	2020 552 96623	2.2nF 10% 50V 0402
2M18	2020 552 96623	2.2nF 10% 50V 0402
2M19	2020 552 96618	1nF 10% 50V 0402



3D01	3198 031 02240	220kΩ 5% 0.1W 0402
3D10	3198 031 04730	47Ω 5% 0402
3D11	4822 117 13601	22kΩ 5% 0402
3D12	4822 117 13601	22kΩ 5% 0402
3D13	3198 031 02720	2.7kΩ 5% 0.01W 0402
3D14	3198 031 02240	220kΩ 5% 0.1W 0402
3D16	4822 117 13602	2.2kΩ 5% 0.01W 0402
3D17	3198 031 02240	220kΩ 5% 0.1W 0402
3D18	3198 031 04730	47Ω 5% 0402
3D20	4822 117 13601	22kΩ 5% 0402
3D21	3198 031 02720	2.7kΩ 5% 0.01W 0402
3D22	4822 117 13606	10kΩ 5% 0.01W 0402
3D23	4822 117 13602	2.2kΩ 5% 0.01W 0402
3D24	4822 117 13606	10kΩ 5% 0.01W 0402
3D25	4822 117 13548	1kΩ 5% 0402
3D26	4822 117 13602	2.2kΩ 5% 0.01W 0402
3D34	2322 762 60332	3.3kΩ 5% 2512
3D35	4822 117 13548	1kΩ 5% 0402
3D37	2322 762 60332	3.3kΩ 5% 2512
3D38	4822 117 13548	1kΩ 5% 0402
3D39	2350 033 11223	22kΩ 5%
3D40	2350 033 11223	22kΩ 5%
3D42	3198 031 04730	47Ω 5% 0402
3D43	5322 117 11726	10Ω 5%
3D44	2322 762 60331	330Ω 5% 2512
3D45	2322 762 60331	330Ω 5% 2512
3D46	3198 031 04780	4.7Ω 5% 0402
3D47	3198 031 04780	4.7Ω 5% 0402
3D49	3198 031 01530	15kΩ 5% 0.01W 0402
3D50	3198 031 06820	6.8kΩ 5% 0.01W 0402

3D51	3198 031 06820	6.8kΩ 5% 0.01W 0402
3D54	3198 031 04730	47Ω 5% 0402
3D56	3198 031 01530	15kΩ 5% 0.01W 0402
3D57	3198 031 01530	15kΩ 5% 0.01W 0402
3D58	3198 031 06810	680Ω 5% 0.01W 0402
3D64	4822 117 13548	1kΩ 5% 0402
3D65	4822 117 13548	1kΩ 5% 0402
3D67	3198 031 03920	3.9kΩ 5% 0402
3D68	4822 117 11297	100kΩ 5% 0.1W
3D69	3198 031 03920	3.9kΩ 5% 0402
3D70	4822 117 11297	100kΩ 5% 0.1W
3D71	4822 117 13606	10kΩ 5% 0.01W 0402
3D72	4822 117 13606	10kΩ 5% 0.01W 0402
3D73	3198 031 05610	560Ω 5% 0.01W 0402
3D74	3198 031 05610	560Ω 5% 0.01W 0402
3D75	3198 031 04730	47Ω 5% 0402
3D76	4822 117 13601	22kΩ 5% 0402
3D78	4822 117 13601	22kΩ 5% 0402
3D79	4822 117 13601	22kΩ 5% 0402
3D81	3198 031 06810	680Ω 5% 0.01W 0402
3D82	3198 031 04730	47Ω 5% 0402
3D83	3198 031 04730	47Ω 5% 0402
3D84	3198 031 04730	47Ω 5% 0402
3D85	3198 031 04730	47Ω 5% 0402
3D86	4822 117 11297	100kΩ 5% 0.1W
3D87	3198 031 04730	47Ω 5% 0402
3D88	4822 117 13603	33kΩ 5% 0402
3D89	4822 117 13601	22kΩ 5% 0402
3D91	4822 117 13603	33kΩ 5% 0402
3M04	4822 117 13545	100Ω 1% 0402
9D03	2350 033 91001	4 x Jumper
9D04	2350 033 91001	4 x Jumper



5D10	2422 549 44197	Bead 220Ω at 100MHz
5D11	2422 549 44197	Bead 220Ω at 100MHz
5D12	2422 536 00137	33μH 10%
5D13	2422 536 00137	33μH 10%
5D14	2422 549 44197	Bead 220Ω at 100MHz
5D15	2422 549 44197	Bead 220Ω at 100MHz
5D16	2422 549 44197	Bead 220Ω at 100MHz
5M02	2422 549 44197	Bead 220Ω at 100MHz
5M03	2422 549 44197	Bead 220Ω at 100MHz
5M09	2422 549 44197	Bead 220Ω at 100MHz
5M10	2422 549 44197	Bead 220Ω at 100MHz
5M11	2422 549 44197	Bead 220Ω at 100MHz
5M12	2422 549 44197	Bead 220Ω at 100MHz



6D10	4822 130 11397	BAS316
6D11	9340 548 69115	PDZ27B
6D12	4822 130 11397	BAS316



7D10	9322 213 35668	LM339P
7D11	9340 425 20115	BC847BS
7D12	9340 425 20115	BC847BS
7D14	3198 010 42310	BC847BW
7D15	3198 010 44350	BC807-25W
7D16	9340 425 30115	BC847BPN
7D17	9340 219 30115	BC817-25W
7D18	9322 224 40668	FET FDS4559_NL
7D19	3198 010 42310	BC847BW
7D20	3198 010 44350	BC807-25W
7D21	9340 425 30115	BC847BPN
7D22	9340 219 30115	BC817-25W
7D23	9322 224 40668	FET FDS4559_NL
7D24	9340 219 30115	BC817-25W
7D25	9340 425 30115	BC847BPN
7D26	9340 425 30115	BC847BPN

Side I/O Panel [D]

Various

1001	2422 026 05133	Connector SVHS 4p f
1002	2422 026 05807	Socket Cinch 3p f
		YeWhRd
1010	4822 267 31014	Soc. headphone
1M36	2422 025 10655	Connector 11p m



2003	2022 552 05679	1μF 10% 16V 0805
2005	2020 552 94427	100pF 5% 50V
2007	2020 552 94427	100pF 5% 50V
2008	2238 916 15641	22nF 10% 25V 0603

2009	5322 126 11583	10nF 10% 50V 0603
2010	2238 916 15641	22nF 10% 25V 0603
2011	5322 126 11583	10nF 10% 50V 0603



3000	4822 051 30759	75Ω 5% 0.062W
3004	4822 051 30759	75Ω 5% 0.062W
3008	4822 051 30222	2.2kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30333	33kΩ 5% 0.062W
3011	4822 051 30392	3.9Ω 5% 0.063W 0603
3012	4822 051 30102	1kΩ 5% 0.062W
3013	4822 051 30333	33kΩ 5% 0.062W
3016	4822 051 30103	10kΩ 5% 0.062W
3020	4822 051 30103	10kΩ 5% 0.062W



6000	4822 130 11416	PDZ6.8B
6001	4822 130 11416	PDZ6.8B
6002	4822 130 11416	PDZ6.8B
6003	4822 130 11416	PDZ6.8B
6004	4822 130 11416	PDZ6.8B
6005	4822 130 11416	PDZ6.8B
6006	4822 130 11416	PDZ6.8B
6007	4822 130 11416	PDZ6.8B
6008	4822 130 11416	PDZ6.8B
6009	4822 130 11416	PDZ6.8B
6010	4822 130 11416	PDZ6.8B
6011	4822 130 11416	PDZ6.8B

Keyboard Control Board [E]

Various

1016	3104 328 28881	Side I/O assy
1701	4822 276 13775	Switch 1p 0.1A 12V
1702	4822 276 13775	Switch 1p 0.1A 12V
1703	4822 276 13775	Switch 1p 0.1A 12V
1704	4822 276 13775	Switch 1p 0.1A 12V
1705	4822 276 13775	Switch 1p 0.1A 12V
1706	4822 276 13775	Switch 1p 0.1A 12V
1M01	4822 267 10459	Connector 3p



3002	4822 051 30151	150Ω 5% 0.062W
3003	4822 051 30391	390Ω 5% 0.062W
3004	4822 051 30561	560Ω 5% 0.062W
3005	4822 117 12968	820Ω 5% 0.62W
3006	3198 021 31820	1.8kΩ 5% 0.062W 0603
3999	4822 117 11454	820Ω 1% 0.1W

Front IR Panel [J]

Various

0345	2422 025 18741	Connector 6p m
1040	9322 206 81667	TSOP34836YA1



2040	4822 124 12095	100μF 20% 16V
2801	2020 552 96637	10μF 10% 6.3V 0805
2802	2020 552 96637	10μF 10% 6.3V 0805



3040	4822 117 13597	330Ω 5% 0.01W 0402
3051	4822 051 30221	220Ω 5% 0.062W
3061	4822 051 30221	220Ω 5% 0.062W
3063	4822 117 13606	10kΩ 5% 0.01W 0402
3078	3198 031 02250	2.2MΩ 5% 0.1W 0402
3801	4822 051 30332	3.3Ω 5% 0.062W
3802	4822 051 30331	330Ω 5% 0.062W
3803	4822 051 30221	220Ω 5% 0.062W
9012	4822 117 13605	Jumper 0402
9041	4822 117 13605	Jumper 0402
9042	4822 117 13605	Jumper 0402
9062	4822 117 13605	Jumper 0402
9066	4822 117 13606	10kΩ 5% 0.01W 0402
9070	4822 117 13605	Jumper 0402
9081	4822 117 13605	Jumper 0402
9082	4822 117 13605	Jumper 0402
9111	4822 117 13605	Jumper 0402
9112	4822 117 13605	Jumper 0402
9115	4822 117 13605	Jumper 0402

9122	4822 117 13605	Jumper 0402
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6051	9322 218 97685	SML-310VTK
6060	9322 134 46685	SML-310MT
6070	9322 140 63685	TEMD5000
6801	9322 192 35676	SPR-325MVW
6803	4822 130 11564	UDZ3.9B



7051	3198 010 42310	BC847BW
7052	3198 010 42310	BC847BW
7062	4822 130 60373	BC856B
7801	4822 130 60373	BC856B
7802	9322 207 16667	TSOP34836LL1B
7803	5322 130 60159	BC846B
7804	5322 130 60159	BC846B

OTC Flash Panel [T]

Various

1000	2422 025 19459	Connector 14p m
1001	2422 543 01497	Xtal 6Mhz 20pF



2001	4822 126 14324	33pF 5% 50V 0402
2002	3198 034 02790	47pF 1% 50V 0402
2003	2020 552 96718	220nF 10% 6.3V 0402
2004	2020 552 96718	220nF 10% 6.3V 0402
2007	3198 035 71040	100nF 10% 16V 0402
2008	3198 035 71040	100nF 10% 16V 0402
2010	3198 034 04790	27pF 1% 50V 0402
2011	3198 034 04790	27pF 1% 50V 0402
2012	3198 034 04790	27pF 1% 50V 0402
2019	3198 035 71040	100nF 10% 16V 0402
2020	3198 035 71040	100nF 10% 16V 0402
2021	3198 035 71040	100nF 10% 16V 0402
2022	3198 035 71040	100nF 10% 16V 0402
2023	3198 035 71040	100nF 10% 16V 0402
2024	3198 035 71040	100nF 10% 16V 0402
2025	3198 035 71040	100nF 10% 16V 0402
2026	3198 035 71040	100nF 10% 16V 0402
2027	3198 035 71040	100nF 10% 16V 0402
2028	3198 035 71040	100nF 10% 16V 0402
2029	4822 124 12095	100μF 20% 16V
2031	3198 035 71040	100nF 10% 16V 0402
2033	2238 869 15829	82pF 5% 50V 0402
2034	2238 869 15829	82pF 5% 50V 0402
2035	2238 869 15829	82pF 5% 50V 0402
2036	2238 869 15829	82pF 5% 50V 0402
2037	2238 869 15829	82pF 5% 50V 0402
2038	3198 035 71040	100nF 10% 16V 0402



3002	4822 117 13545	100Ω 1% 0402
3003	4822 117 13525	24kΩ 1% 0.62W 0603
3005	4822 117 13545	100Ω 1% 0402
3006	4822 117 13606	10kΩ 5% 0.01W 0402
3007	3198 031 14710	4 x 470Ω 5% 1206
3008	4822 117 13523	220Ω 5% 0.63W
3010	4822 117 13543	470Ω 5% 0402
3011	4822 117 13545	100Ω 1% 0402
3012	3198 031 11010	4 x 100Ω 5% 1206
3013	3198 031 04720	4.7kΩ 5% 0402
3014	3198 031 04720	4.7kΩ 5% 0402
3015	4822 117 13545	100Ω 1% 0402
3016	4822 117 13545	100Ω 1% 0402
3021	4822 117 13605	Jumper 0402
3023	4822 117 13606	10kΩ 5% 0.01W 0402
3029	4822 117 13606	10kΩ 5% 0.01W 0402
3031	4822 117 13606	10kΩ 5% 0.01W 0402
3034	3198 031 11010	4 x 100Ω 5% 1206
3035	3198 031 11010	4 x 100Ω 5% 1206
3048	3198 031 11010	4 x 100Ω 5% 1206
3049	3198 031 11010	4 x 100Ω 5% 1206
3050	3198 031 11010	4 x 100Ω 5% 1206
3051	3198 031 11010	4 x 100Ω 5% 1206
3052	3198 031 11010	4 x 100Ω 5% 1206
3053	4822 117 13545	100Ω 1% 0402
3054	3198 031 11010	4 x 100Ω 5% 1206
3055	3198 031 11010	4 x 100Ω 5% 1206
3056	3198 031 11010	4 x 100Ω 5% 1206
3057	3198 031 11010	4 x 100Ω 5% 1206
3062	4822 117 13606	10kΩ 5% 0.01W 0402
4002	4822 117 13605	Jumper 0402

4004 4822 117 13605 Jumper 0402



5001 2422 549 45333 Bead 120Ω at 100MHz



- 7001 9352 684 81557 SAA5801H/015
- 7002 9322 189 01668 AT24C32AN
- 7003 3198 010 70400 74LVC1G14GW
- 7006 9322 194 74671 M29W160ET70N6E
- 7007 9322 200 55668 IS41LV16100-50K

11. Revision List

Manual xxxx xxx xxxx.0

- First release.

Manual xxxx xxx xxxx.1

- **Chapter 7:** PDP FHP Supply diagrams and layouts added.
- **Chapter 8:** Panel size table modified.
- **Chapter 10:** PDP FHP Supply panel added.